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<213> Homo sapiens

<400> 166

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Gln Leu Trp Phe Phe Arg Phe Val Val Asn Ala Ala Gly Tyr Ala Ser

35

40

45

Phe Met Val Pro Gly Tyr Leu Leu Val Gln Tyr Phe Arg Arg Lys Asn

50

55

60

Tyr Leu Glu Thr Gly Arg Gly Leu Cys Phe Pro Leu Val Lys Ala Cys

65

70

75

80

Val Phe Gly Asn Glu Pro Lys Ala Ser Asp Glu Val Pro Leu Ala Pro

85

90

95

Arg Thr Glu Ala Ala Glu Thr Thr Pro Met Trp Gln Ala Leu Lys Leu

100

105

110

Leu Phe Cys Ala Thr Gly Leu Gln Val Ser Tyr Leu Thr Trp Gly Val

115

120

125

Leu Gln Glu Arg Val Met Thr Arg Ser Tyr Gly Ala Thr Ala Thr Ser

130

135

140

Pro Gly Glu Arg Phe Thr Asp Ser Gln Phe Leu Val Leu Met Asn Arg

145

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160

Val Leu Ala Leu Ile Val Ala Gly Leu Ser Cys Val Leu Cys Lys Gln

165

170

175

Pro Arg His Gly Ala Pro Met Tyr Arg Tyr Ser Phe Ala Ser Leu Ser



180

185

190

Asn Val Leu Ser Ser Trp Cys Gln Tyr Glu Ala Leu Lys Phe Val Ser

195

200

205

Phe Pro Thr Gln Val Leu Ala Lys Ala Ser Lys Val Ile Pro Val Met

210

215

220

Leu Met Gly Lys Leu Val Ser Arg Arg Ser Tyr Glu His Trp Glu Tyr

225

230

235

240

Leu Thr Ala Thr Leu Ile Ser Ile Gly Val Ser Met Phe Leu Leu Ser

245

250

255

Ser Gly Pro Glu Pro Arg Ser Ser Pro Ala Thr Thr Leu Ser Gly Leu

260

265

270

Ile Leu Leu Ala Gly Tyr Ile Ala Phe Asp Ser Phe Thr Ser Asn Trp

275

280

285

Gln Asp Ala Leu Phe Ala Tyr Lys Met Ser Ser Val Gln Met Met Phe

290

295

300

Gly Val Asn Phe Phe Ser Cys Leu Phe Thr Val Gly Ser Leu Leu Glu

305

310

315

320

Gln Gly Ala Leu Leu Glu Gly Thr Arg Phe Met Gly Arg His Ser Gly

325

330

335

Phe Ala Ala His Ala Leu Leu Leu Ser Ile Cys Ser Ala Cys Gly Gln

340

345

350

Leu Phe Ile Phe Tyr Thr Ile Gly Gln Phe Gly Ala Ala Val Phe Thr

355

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365

Ile Ile Met Thr Leu Arg Gln Ala Phe Ala Ile Leu Leu Ser Cys Leu

370

375

380

Leu Tyr Gly His Thr Val Thr Val Val Gly Gly Leu Gly Val Ala Val

385

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395

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Val Phe Ala Ala Leu Leu Leu Arg Val Tyr Ala Arg Gly Arg Leu Lys

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Gln Arg Gly Lys Lys Ala Val Pro Val Glu Ser Pro Val Gln Lys Val

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Gly Met Gly Pro Leu Leu Ala Thr Val Ser Gly Ala Ser Thr Gly Val

15

20

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tcg ggc ctg gat tcc acg gcc atg gcc tct gcc gct gcg gcg cag gga 148

Ser Gly Leu Asp Ser Thr Ala Met Ala Ser Ala Ala Ala Ala Gln Gly

30

35

40

ctg tcc ggg gcg tcc gcg gcc acc ctg ccc ttc cac ctc cag cag cac 196

Leu Ser Gly Ala Ser Ala Ala Thr Leu Pro Phe His Leu Gln Gln His

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50

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gtc ctg gcc tct cag ggc ctg gcc atg tcc cct ttc gga agc ctg ttc 244

Val Leu Ala Ser Gln Gly Leu Ala Met Ser Pro Phe Gly Ser Leu Phe

60

65

70

75

cct tac ccc tac acg tac atg gcc gca gcg gcg gcc gcc tcc tct gcg 292

Pro Tyr Pro Tyr Thr Tyr Met Ala Ala Ala Ala Ala Ala Ser Ser Ala

80

85

90

gca gcc tcc agc tcg gtg cac cgc cac ccc ttc ctc aat ctg aac acc 340

Ala Ala Ser Ser Ser Val His Arg His Pro Phe Leu Asn Leu Asn Thr

95

100

105

atg cgc ccg cgg ctg cgc tac agc ccc tac tcc atc ccg gtg ccg gtc 388

Met Arg Pro Arg Leu Arg Tyr Ser Pro Tyr Ser Ile Pro Val Pro Val

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120

ccg gac ggc agc agt ctg ctc acc acc gcc ctg ccc tcc atg gcg gcg 436

Pro Asp Gly Ser Ser Leu Leu Thr Thr Ala Leu Pro Ser Met Ala Ala

125

130

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gcc gcg ggg ccc ctg gac ggc aaa gtc gcc gcc ctg gcc gcc agc ccg 484

Ala Ala Gly Pro Leu Asp Gly Lys Val Ala Ala Leu Ala Ala Ser Pro

140

145

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155

gcc tcg gtg gca gtg gac tcg ggc tct gaa ctc aac agc cgc tcc tcc 532

Ala Ser Val Ala Val Asp Ser Gly Ser Glu Leu Asn Ser Arg Ser Ser

160

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170

acg ctc tcc tcc agc tcc atg tcc ttg tcg ccc aaa ctc tgc gcg gag 580

Thr Leu Ser Ser Ser Ser Met Ser Leu Ser Pro Lys Leu Cys Ala Glu

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180

185

aaa gag gcg gcc acc agc gaa ctg cag agc atc cag cgg ttg gtt agc 628

Lys Glu Ala Ala Thr Ser Glu Leu Gln Ser Ile Gln Arg Leu Val Ser

190

195

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ggc ttg gaa gcc aag ccg gac agg tcc cgc agc gcg tcc ccg 670

Gly Leu Glu Ala Lys Pro Asp Arg Ser Arg Ser Ala Ser Pro

205

210

215

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<210> 168

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<213> Homo sapiens

<400> 168

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Leu Ala Thr Val Ser Gly Ala Ser Thr Gly Val Ser Gly Leu Asp Ser

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Thr Ala Met Ala Ser Ala Ala Ala Ala Gln Gly Leu Ser Gly Ala Ser

35 40 45

Ala Ala Thr Leu Pro Phe His Leu Gln Gln His Val Leu Ala Ser Gln

50 55 60

Gly Leu Ala Met Ser Pro Phe Gly Ser Leu Phe Pro Tyr Pro Tyr Thr

65 70 75 80

Tyr Met Ala Ala Ala Ala Ala Ala Ser Ser Ala Ala Ala Ser Ser Ser

85 90 95

Val His Arg His Pro Phe Leu Asn Leu Asn Thr Met Arg Pro Arg Leu

100 105 110

Arg Tyr Ser Pro Tyr Ser Ile Pro Val Pro Val Pro Asp Gly Ser Ser

115 120 125

Leu Leu Thr Thr Ala Leu Pro Ser Met Ala Ala Ala Ala Gly Pro Leu

130 135 140

Asp Gly Lys Val Ala Ala Leu Ala Ala Ser Pro Ala Ser Val Ala Val

145 150 155 160

Asp Ser Gly Ser Glu Leu Asn Ser Arg Ser Ser Thr Leu Ser Ser Ser

165 170 175

Ser Met Ser Leu Ser Pro Lys Leu Cys Ala Glu Lys Glu Ala Ala Thr

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Ser Glu Leu Gln Ser Ile Gln Arg Leu Val Ser Gly Leu Glu Ala Lys

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Pro Asp Arg Ser Arg Ser Ala Ser Pro

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<220>

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<222> (56)..(1456)

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Arg Pro Gln Glu Leu Pro Arg Leu Ala Phe Pro Leu Leu Leu Leu Leu

5

10

15

ttg ctg ctg ctg ccg ccg ccg ccg tgc cct gcc cac agc gcc acg cgc 154

Leu Leu Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr Arg

20

25

30

ttc gac ccc acc tgg gag tcc ctg gac gcc cgc cag ctg ccc gcg tgg 202

Phe Asp Pro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala Trp

35

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ttt gac cag gcc aag ttc ggc atc ttc atc cac tgg gga gtg ttt tcc 250

Phe Asp Gln Ala Lys Phe Gly Ile Phe Ile His Trp Gly Val Phe Ser

50

55

60

65

gtg ccc agc ttc ggt agc gag tgg ttc tgg tgg tat tgg caa aag gaa 298

Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys Glu

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75

80

aag ata ccg aag tat gtg gaa ttt atg aaa gat aat tac cct cct agt 346

Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro Ser

85

90

95

ttc aaa tat gaa gat ttt gga cca cta ttt aca gca aaa ttt ttt aat 394

Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe Asn

100

105

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gcc aac cag tgg gca gat att ttt cag gcc tct ggt gcc aaa tac att 442

Ala Asn Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr Ile

115

120

125

gtc tta act tcc aaa cat cat gaa ggc ttt acc ttg tgg ggg tca gaa 490

Val Leu Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser Glu

130

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140

145

tat tcg tgg aac tgg aat gcc ata gat gag ggg ccc aag agg gac att 538

Tyr Ser Trp Asn Trp Asn Ala Ile Asp Glu Gly Pro Lys Arg Asp Ile

150

155

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gtc aag gaa ctt gag gta gcc att agg aac aga act gac ctg cgt ttt 586

Val Lys Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg Phe

165

170

175

gga ctg tac tat tcc ctt ttt gaa tgg ttt cat ccg ctc ttc ctt gag 634

Gly Leu Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu Glu

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185

190

gat gaa tcc agt tca ttc cat aag cgg caa ttt cca gtt tct aag aca 682

Asp Glu Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys Thr

195

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ttg cca gag ctc tat gag tta gtg aac aac tat cag cct gag gtt ctg 730

Leu Pro Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val Leu

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225

tgg tcg gat ggt gac gga gga gca ccg gat caa tac tgg aac agc aca 778

Trp Ser Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser Thr

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ggc ttc ttg gcc tgg tta tat aat gaa agc cca gtt cgg ggc aca gta			826
Gly Phe Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr Val			
245	250	255	

gtc acc aat gat cgt tgg gga gct ggt agc atc tgt aag cat ggt ggc			874
Val Thr Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly Gly			
260	265	270	

ttc tat acc tgc agt gat cgt tat aac cca gga cat ctt ttg cca cat			922
Phe Tyr Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro His			
275	280	285	

aaa tgg gaa aac tgc atg aca ata gac aaa ctg tcc tgg ggc tat agg			970
Lys Trp Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr Arg			
290	295	300	305

agg gaa gct gga atc tct gac tat ctt aca att gaa gaa ttg gtg aag			1018
Arg Glu Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val Lys			
310	315	320	

caa ctt gta gag aca gtt tca tgt gga gga aat ctt ttg atg aat att			1066
Gln Leu Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn Ile			
325	330	335	

ggg ccc aca cta gat ggc acc att tct gta gtt ttt gag gag cga ctg			1114
Gly Pro Thr Leu Asp Gly Thr Ile Ser Val Val Phe Glu Glu Arg Leu			
340	345	350	

agg caa gtg ggg tcc tgg cta aaa gtc aat gga gaa gct att tat gaa 1162

Arg Gln Val Gly Ser Trp Leu Lys Val Asn Gly Glu Ala Ile Tyr Glu

355

360

365

acc tat acc tgg cga tcc cag aac gac act gtc acc cca gat gtg tgg 1210

Thr Tyr Thr Trp Arg Ser Gln Asn Asp Thr Val Thr Pro Asp Val Trp

370

375

380

385

tac aca tcc aag cct aaa gaa aaa tta gtc tat gcc att ttt cct aaa 1258

Tyr Thr Ser Lys Pro Lys Glu Lys Leu Val Tyr Ala Ile Phe Pro Lys

390

395

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tgg ccc aca tca gga cag ctg ttc ctt ggc cat ccc aaa gct att ctg 1306

Trp Pro Thr Ser Gly Gln Leu Phe Leu Gly His Pro Lys Ala Ile Leu

405

410

415

ggg gca aca gag gtg aaa cta ctg ggc cat gga cag cca ctt aac tgg 1354

Gly Ala Thr Glu Val Lys Leu Leu Gly His Gly Gln Pro Leu Asn Trp

420

425

430

att tct ttg gag caa aat ggc att atg gta gaa ctg cca cag cta acc 1402

Ile Ser Leu Glu Gln Asn Gly Ile Met Val Glu Leu Pro Gln Leu Thr

435

440

445

att cat cag atg ccg tgt aaa tgg ggc tgg gct cta gcc cta act aat 1450

Ile His Gln Met Pro Cys Lys Trp Gly Trp Ala Leu Ala Leu Thr Asn

450

455

460

465

gtg atc taaagtcag cagagtggct gatgctgcaa gttatgtcta aggctaggaa 1506
Val Ile

ctatcaggtg tctataattg tagcacatgg agaaagcaaa tgtaaaactg gataagaaaa 1566

ttattttggc agttcagccc tticcctttt tccactaaa ttttttctta aattacccat 1626

gtaaccattt taactctcca gtcactttg ccattaaagt ctcttcacat tgatttgtct 1686

cc 1688

<210> 170

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<212> PRT

<213> Homo sapiens

<400> 170

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Leu Leu Leu Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr

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Arg Phe Asp Pro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala

35 40 45

Trp Phe Asp Gln Ala Lys Phe Gly Ile Phe Ile His Trp Gly Val Phe

50 55 60

Ser Val Pro Ser Phe Gly Ser Glu Trp Phe Trp Trp Tyr Trp Gln Lys

65 70 75 80

Glu Lys Ile Pro Lys Tyr Val Glu Phe Met Lys Asp Asn Tyr Pro Pro

85 90 95

Ser Phe Lys Tyr Glu Asp Phe Gly Pro Leu Phe Thr Ala Lys Phe Phe

100 105 110

Asn Ala Asn Gln Trp Ala Asp Ile Phe Gln Ala Ser Gly Ala Lys Tyr

115 120 125

Ile Val Leu Thr Ser Lys His His Glu Gly Phe Thr Leu Trp Gly Ser

130 135 140

Glu Tyr Ser Trp Asn Trp Asn Ala Ile Asp Glu Gly Pro Lys Arg Asp

145 150 155 160

Ile Val Lys Glu Leu Glu Val Ala Ile Arg Asn Arg Thr Asp Leu Arg

165 170 175

Phe Gly Leu Tyr Tyr Ser Leu Phe Glu Trp Phe His Pro Leu Phe Leu

180 185 190

Glu Asp Glu Ser Ser Ser Phe His Lys Arg Gln Phe Pro Val Ser Lys

195 200 205

Thr Leu Pro Glu Leu Tyr Glu Leu Val Asn Asn Tyr Gln Pro Glu Val

210

215

220

Leu Trp Ser Asp Gly Asp Gly Gly Ala Pro Asp Gln Tyr Trp Asn Ser

225

230

235

240

Thr Gly Phe Leu Ala Trp Leu Tyr Asn Glu Ser Pro Val Arg Gly Thr

245

250

255

Val Val Thr Asn Asp Arg Trp Gly Ala Gly Ser Ile Cys Lys His Gly

260

265

270

Gly Phe Tyr Thr Cys Ser Asp Arg Tyr Asn Pro Gly His Leu Leu Pro

275

280

285

His Lys Trp Glu Asn Cys Met Thr Ile Asp Lys Leu Ser Trp Gly Tyr

290

295

300

Arg Arg Glu Ala Gly Ile Ser Asp Tyr Leu Thr Ile Glu Glu Leu Val

305

310

315

320

Lys Gln Leu Val Glu Thr Val Ser Cys Gly Gly Asn Leu Leu Met Asn

325

330

335

Ile Gly Pro Thr Leu Asp Gly Thr Ile Ser Val Val Phe Glu Glu Arg

340

345

350

Leu Arg Gln Val Gly Ser Trp Leu Lys Val Asn Gly Glu Ala Ile Tyr

355

360

365

Glu Thr Tyr Thr Trp Arg Ser Gln Asn Asp Thr Val Thr Pro Asp Val
370 375 380

Trp Tyr Thr Ser Lys Pro Lys Glu Lys Leu Val Tyr Ala Ile Phe Pro
385 390 395 400

Lys Trp Pro Thr Ser Gly Gln Leu Phe Leu Gly His Pro Lys Ala Ile
405 410 415

Leu Gly Ala Thr Glu Val Lys Leu Leu Gly His Gly Gln Pro Leu Asn
420 425 430

Trp Ile Ser Leu Glu Gln Asn Gly Ile Met Val Glu Leu Pro Gln Leu
435 440 445

Thr Ile His Gln Met Pro Cys Lys Trp Gly Trp Ala Leu Ala Leu Thr
450 455 460

Asn Val Ile
465

<210> 171
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<213> Homo sapiens

<220>
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<222> (20)..(1141)

<400> 171

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1

5

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Arg Cys Pro Glu Leu Gly Leu Val Leu Leu Leu Leu Leu Leu Ser Leu

15

20

25

ctg tgt gga gcg gca ggg agc cag gag gcc ggg acc ggt gcg ggc gcg 148

Leu Cys Gly Ala Ala Gly Ser Gln Glu Ala Gly Thr Gly Ala Gly Ala

30

35

40

ggg tcc ctt gcg ggt tct tgc ggc tgc ggc acg ccc cag cgg cct ggc 196

Gly Ser Leu Ala Gly Ser Cys Gly Cys Gly Thr Pro Gln Arg Pro Gly

45

50

55

gcc cat ggc agt tcg gca gcc gct cac cga tac tcg cgg gag gct aac 244

Ala His Gly Ser Ser Ala Ala Ala His Arg Tyr Ser Arg Glu Ala Asn

60

65

70

75

gct ccg ggc ccc gta ccc gga gag cgg caa ctc gcg cac tca aag atg 292

Ala Pro Gly Pro Val Pro Gly Glu Arg Gln Leu Ala His Ser Lys Met

80

85

90

gtc ccc atc cct gct gga gta ttt aca atg ggc aca gat gat cct cag 340

Val Pro Ile Pro Ala Gly Val Phe Thr Met Gly Thr Asp Asp Pro Gln

95

100

105

ata aag cag gat ggg gaa gca cct gcg agg aga gtt act att gat gcc 388

Ile Lys Gln Asp Gly Glu Ala Pro Ala Arg Arg Val Thr Ile Asp Ala

110

115

120

ctt tac atg gat gcc tat gaa gtc agt aat act gaa ttt gag aag ttt 436

Leu Tyr Met Asp Ala Tyr Glu Val Ser Asn Thr Glu Phe Glu Lys Phe

125

130

135

gtg aac tca act ggc tat ttg aca gag gct gag aag ttt ggc gac tcc 484

Val Asn Ser Thr Gly Tyr Leu Thr Glu Ala Glu Lys Phe Gly Asp Ser

140

145

150

155

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Phe Val Phe Glu Gly Met Leu Ser Glu Gln Val Lys Thr Asn Ile Gln

160

165

170

cag gca gtt gca gct gct ccc tgg tgg tta cct gtg aaa ggc gct aac 580

Gln Ala Val Ala Ala Ala Pro Trp Trp Leu Pro Val Lys Gly Ala Asn

175

180

185

tgg aga cac cca gaa ggg cct gac tct act att ctg cac agg ccg gat 628

Trp Arg His Pro Glu Gly Pro Asp Ser Thr Ile Leu His Arg Pro Asp

190

195

200

cat cca gtt ctc cat gtg tcc tgg aat gat gcg gtt gcc tac tgc act 676

His Pro Val Leu His Val Ser Trp Asn Asp Ala Val Ala Tyr Cys Thr

205

210

215

tgg gca ggg aag cgg ctg ccc acg gaa gct gag tgg gaa tac agc tgt 724
 Trp Ala Gly Lys Arg Leu Pro Thr Glu Ala Glu Trp Glu Tyr Ser Cys
 220 225 230 235

cga gga ggc ctg cat aat aga ctt ttc ccc tgg ggc aac aaa ctg cag 772

Arg Gly Gly Leu His Asn Arg Leu Phe Pro Trp Gly Asn Lys Leu Gln
 240 245 250

ccc aaa ggc cag cat tat gcc aac att tgg cag ggc gat ttt ccg gtg 820
 Pro Lys Gly Gln His Tyr Ala Asn Ile Trp Gln Gly Asp Phe Pro Val
 255 260 265

acc aac act ggt gag gat ggc ttc caa gga act gcg cct gtt gat gcc 868
 Thr Asn Thr Gly Glu Asp Gly Phe Gln Gly Thr Ala Pro Val Asp Ala
 270 275 280

ttc cct ccc aat ggt tat ggc tta tac aac ata gtg ggg aac gca tgg 916
 Phe Pro Pro Asn Gly Tyr Gly Leu Tyr Asn Ile Val Gly Asn Ala Trp
 285 290 295

gaa tgg act tca gac tgg tgg act gtt cat cat tct gtt gaa gaa acg 964
 Glu Trp Thr Ser Asp Trp Trp Thr Val His His Ser Val Glu Glu Thr
 300 305 310 315

ctt aac cca aaa ggt ccc cct tct ggg aaa gac cga gtg aag aaa ggt 1012
 Leu Asn Pro Lys Gly Pro Pro Ser Gly Lys Asp Arg Val Lys Lys Gly
 320 325 330

gga tcc tac atg tgc cat agg tct tat tgt tac agg tat cgc tgt gct 1060

Gly Ser Tyr Met Cys His Arg Ser Tyr Cys Tyr Arg Tyr Arg Cys Ala

335

340

345

gct cgg agc cag aac aca cct gat agc tct gct tcg aat ctg gga ttc 1108

Ala Arg Ser Gln Asn Thr Pro Asp Ser Ser Ala Ser Asn Leu Gly Phe

350

355

360

cgc tgt gca gcc gac cgc ctg ccc acc atg gac tgacaaccaa gggtagtctt 1161

Arg Cys Ala Ala Asp Arg Leu Pro Thr Met Asp

365

370

ccccagtcca aggagcagtc gtgtctgacc tacattgggc tttcctcaga actttgaacg 1221

atcccatgca aagaattccc accctgaggt gggttacata cctgcccaat ggccaaagga 1281

accgccttgt gagaccaaatt tgctgacctg ggtcagtgc tgtgctttat ggtgtggtgc 1341

atctttggag atcatcacca tattttactt ttgagagtct ttaaagagga aggggagtgg 1401

agggaaacct gagctaggct tcaggaggcc cgcctcctac gcaggctctg ccacaggggt 1461

tagaccccag gtccgacgct tgaccttccct gggcctcaag tgccctcccc tatcaaatga 1521

aggaatggac agcatgacct ctgggtgtct ctccaactca ccagttctaa aaagggtatc 1581

agattctatt gtgacttcat agaatttatg atagattatt ttttagctat ttttccatg 1641

tgtgaacctt gactgatact aatcatgtaa agtaagagtt ctcttatgta ttatgttcgg 1701

aagaggggtg tggtagactcc ttatattcg tactgcactt tgtttttcca aggaaatcag 1761

tgtcttttac gttgttatga tgaatccac atggggccgg tgaatggtatg ctgaagtcca 1821

gccgttgaac acataggaat gtctgtgggg tgactctact gtgctttatc ttttaacatt 1881

aagtgccttt ggttcagagg ggcagtcata agctctgttt cccctctcc ccaaagcctt 1941

cagcgaacgt gaaatgtgcg ctaaaccggg aaacctgttt aattctagat atagggaata 2001

aggaacgagg acctgaatg agctatattc aggtatccg gtattttgta atagggaata 2061

ggaaaccttg ttggctgtgg aatatccgat gctttgaatc atgcactgtg ttgaataaac 2121

gtatctgct 2130

<210> 172

<211> 374

<212> PRT

<213> Homo sapiens

<400> 172

Met Ala Ala Pro Ala Leu Gly Leu Val Cys Gly Arg Cys Pro Glu Leu

1

5

10

15

Gly Leu Val Leu Leu Leu Leu Leu Ser Leu Leu Cys Gly Ala Ala

20

25

30

Gly Ser Gln Glu Ala Gly Thr Gly Ala Gly Ala Gly Ser Leu Ala Gly

35

40

45

Ser Cys Gly Cys Gly Thr Pro Gln Arg Pro Gly Ala His Gly Ser Ser

50

55

60

Ala Ala Ala His Arg Tyr Ser Arg Glu Ala Asn Ala Pro Gly Pro Val

65

70

75

80

Pro Gly Glu Arg Gln Leu Ala His Ser Lys Met Val Pro Ile Pro Ala

85

90

95

Gly Val Phe Thr Met Gly Thr Asp Asp Pro Gln Ile Lys Gln Asp Gly

100

105

110

Glu Ala Pro Ala Arg Arg Val Thr Ile Asp Ala Leu Tyr Met Asp Ala

115

120

125

Tyr Glu Val Ser Asn Thr Glu Phe Glu Lys Phe Val Asn Ser Thr Gly

130

135

140

Tyr Leu Thr Glu Ala Glu Lys Phe Gly Asp Ser Phe Val Phe Glu Gly

145

150

155

160

Met Leu Ser Glu Gln Val Lys Thr Asn Ile Gln Gln Ala Val Ala Ala

165

170

175

Ala Pro Trp Trp Leu Pro Val Lys Gly Ala Asn Trp Arg His Pro Glu

180

185

190

Gly Pro Asp Ser Thr Ile Leu His Arg Pro Asp His Pro Val Leu His

195

200

205

Val Ser Trp Asn Asp Ala Val Ala Tyr Cys Thr Trp Ala Gly Lys Arg

210

215

220

Leu Pro Thr Glu Ala Glu Trp Glu Tyr Ser Cys Arg Gly Gly Leu His

225

230

235

240

Asn Arg Leu Phe Pro Trp Gly Asn Lys Leu Gln Pro Lys Gly Gln His

245

250

255

Tyr Ala Asn Ile Trp Gln Gly Asp Phe Pro Val Thr Asn Thr Gly Glu

260

265

270

Asp Gly Phe Gln Gly Thr Ala Pro Val Asp Ala Phe Pro Pro Asn Gly

275

280

285

Tyr Gly Leu Tyr Asn Ile Val Gly Asn Ala Trp Glu Trp Thr Ser Asp

290

295

300

Trp Trp Thr Val His His Ser Val Glu Glu Thr Leu Asn Pro Lys Gly

305

310

315

320

Pro Pro Ser Gly Lys Asp Arg Val Lys Lys Gly Gly Ser Tyr Met Cys

325

330

335

His Arg Ser Tyr Cys Tyr Arg Tyr Arg Cys Ala Ala Arg Ser Gln Asn

340

345

350

Thr Pro Asp Ser Ser Ala Ser Asn Leu Gly Phe Arg Cys Ala Ala Asp

355

360

365

Arg Leu Pro Thr Met Asp

370

<210> 173

<211> 1836

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (150)..(560)

<400> 173

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tcattctgct gacccttttt acttttgcc atg ggc ttc atg acg ggc acc att 173

Met Gly Phe Met Thr Gly Thr Ile

1

5

tcc agt atg tac caa acc aaa gcc gtc atc att gca atg atc atc act 221

Ser Ser Met Tyr Gln Thr Lys Ala Val Ile Ile Ala Met Ile Ile Thr
 10 15 20

gcg gtg gta tcc att tca gtc acc atc ttc tgc ttt cag acc aag gtg 269
 Ala Val Val Ser Ile Ser Val Thr Ile Phe Cys Phe Gln Thr Lys Val
 25 30 35 40

gac ttc acc tcg tgc aca ggc ctc ttc tgt gtc ctg gga att gtg ctc 317
 Asp Phe Thr Ser Cys Thr Gly Leu Phe Cys Val Leu Gly Ile Val Leu
 45 50 55

ctg gtg act ggg att gtc act agc att gtg ctc tac ttc caa tac gtt 365
 Leu Val Thr Gly Ile Val Thr Ser Ile Val Leu Tyr Phe Gln Tyr Val
 60 65 70

tac tgg ctc cac atg ctc tat gct gct ctg ggg gcc att tgt ttc acc 413
 Tyr Trp Leu His Met Leu Tyr Ala Ala Leu Gly Ala Ile Cys Phe Thr
 75 80 85

ctg ttc ctg gct tac gac aca cag ctg gtc ctg ggg aac cgg aag cac 461
 Leu Phe Leu Ala Tyr Asp Thr Gln Leu Val Leu Gly Asn Arg Lys His
 90 95 100

acc atc agc ccc gag gac tac atc act ggc gcc ctg cag att tac aca 509
 Thr Ile Ser Pro Glu Asp Tyr Ile Thr Gly Ala Leu Gln Ile Tyr Thr
 105 110 115 120

gac atc atc tac atc ttc acc ttt gtg ctg cag ctg atg ggg gat cgc 557
 Asp Ile Ile Tyr Ile Phe Thr Phe Val Leu Gln Leu Met Gly Asp Arg

125

130

135

aat taaggagcaa gccccattt tcacccgatc ctgggctctc ccttccaagc 610

Asn

tagagggctg ggccctatga ctgtggctctg ggcttttaggc ccctttcctt ccccttgagt 670

aacatgccca gtttcctttc tgtcctggag acaggtggcc tctctggcta tggatgtgtg 730

ggtacttggg ggggacggag gagctaggga ctaactgttg ctcttgggtg gcttggcagg 790

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ctacgtagtt ggagctattt cctccccag caaagccaga gagctttgtc cccggcctcc 1030

tggacacata ggccattatc ctgtattcct ttggcttggc atcttttagc tcaggaaggt 1090

agaagagatc tgtgcccag ggtctccttg cttcaatccc ttcttgtttc agtgacatat 1150

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gaaagtaagg ggcagagtca tacgtgtggc caggaagtag ccagggtgaa gagagactcg 1450

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tgtggtactg aagacttctg ggttctttcc ttctgctaac ccagggaggg tcctaagagg 1570

aaggtgactt ctctctgttt gtcttaagtt gcactggggg atttctgact tgaggcccat 1630

ctctccagcc agccactccc ttctttgtaa tattaagtgc cttgagctgg aatggggaag 1690

ggggacaagg gtcagtctgt cgggtggggg cagaaatcaa atcagcccaa ggatatagtt 1750

aggattaatt acttaataga gaaatcctaa ctatcacaca caaagggata caactataaa 1810

tgtaataaaa tttatgtcta gaagtt 1836

<210> 174

<211> 137

<212> PRT

<213> Homo sapiens

<400> 174

Met Gly Phe Met Thr Gly Thr Ile Ser Ser Met Tyr Gln Thr Lys Ala

1 5 10 15

Val Ile Ile Ala Met Ile Ile Thr Ala Val Val Ser Ile Ser Val Thr

20

25

30

Ile Phe Cys Phe Gln Thr Lys Val Asp Phe Thr Ser Cys Thr Gly Leu

35

40

45

Phe Cys Val Leu Gly Ile Val Leu Leu Val Thr Gly Ile Val Thr Ser

50

55

60

Ile Val Leu Tyr Phe Gln Tyr Val Tyr Trp Leu His Met Leu Tyr Ala

65

70

75

80

Ala Leu Gly Ala Ile Cys Phe Thr Leu Phe Leu Ala Tyr Asp Thr Gln

85

90

95

Leu Val Leu Gly Asn Arg Lys His Thr Ile Ser Pro Glu Asp Tyr Ile

100

105

110

Thr Gly Ala Leu Gln Ile Tyr Thr Asp Ile Ile Tyr Ile Phe Thr Phe

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Val Leu Gln Leu Met Gly Asp Arg Asn

130

135

<210> 175

<211> 2198

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (123)..(1238)

<400> 175

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tgctgtctgg gggagccgcc caggaggctc ctcaggccga cccagtcctc tggctggcca 120

gg atg aag tat ctc cgg cac cgg cgg ccc aat gcc acc ctc att ctg 167

Met Lys Tyr Leu Arg His Arg Arg Pro Asn Ala Thr Leu Ile Leu

1 5 10 15

gcc atc ggc gct ttc acc ctc ctc ctc ttc agt ctg cta gtg tca cca 215

Ala Ile Gly Ala Phe Thr Leu Leu Leu Phe Ser Leu Leu Val Ser Pro

20 25 30

ccc acc tgc aag gtc cag gag cag cca ccg gcg atc ccc gag gcc ctg 263

Pro Thr Cys Lys Val Gln Glu Gln Pro Pro Ala Ile Pro Glu Ala Leu

35 40 45

gcc tgg ccc act cca ccc acc cgc cca gcc ccg gcc ccg tgc cat gcc 311

Ala Trp Pro Thr Pro Pro Thr Arg Pro Ala Pro Ala Pro Cys His Ala

50 55 60

aac acc tct atg gtc acc cac ccg aac ttc gcc acg cag ccg cag cac 359

Asn Thr Ser Met Val Thr His Pro Asn Phe Ala Thr Gln Pro Gln His

65 70 75

gtt cag aac ttc ctc ctg tac aga cac tgc cgc cac ttt ccc ctg ctg 407

Val Gln Asn Phe Leu Leu Tyr Arg His Cys Arg His Phe Pro Leu Leu

80 85 90 95

cag gac gtg ccc ccc tct aag tgc gcg cag ccg gtc ttc ctg ctg ctg 455

Gln Asp Val Pro Pro Ser Lys Cys Ala Gln Pro Val Phe Leu Leu Leu

100

105

110

gtg atc aag tcc tcc cct agc aac tat gtg cgc cgc gag ctg ctg cgg 503

Val Ile Lys Ser Ser Pro Ser Asn Tyr Val Arg Arg Glu Leu Leu Arg

115

120

125

cgc acg tgg ggc cgc gag cgc aag gta cgg ggt ttg cag ctg cgc ctc 551

Arg Thr Trp Gly Arg Glu Arg Lys Val Arg Gly Leu Gln Leu Arg Leu

130

135

140

ctc ttc ctg gtg ggc aca gcc tcc aac ccg cac gag gcc cgc aag gtc 599

Leu Phe Leu Val Gly Thr Ala Ser Asn Pro His Glu Ala Arg Lys Val

145

150

155

aac cgg ctg ctg gag ctg gag gca cag act cac gga gac atc ctg cag 647

Asn Arg Leu Leu Glu Leu Glu Ala Gln Thr His Gly Asp Ile Leu Gln

160

165

170

175

tgg gac ttc cac gac tcc ttc ttc aac ctc acg ctc aag cag gtc ctg 695

Trp Asp Phe His Asp Ser Phe Phe Asn Leu Thr Leu Lys Gln Val Leu

180

185

190

ttc tta cag tgg cag gag aca agg tgc gcc aac gcc agc ttc gtg ctc 743

Phe Leu Gln Trp Gln Glu Thr Arg Cys Ala Asn Ala Ser Phe Val Leu
 195 200 205

aac ggg gat gat gac gtc ttt gca cac aca gac aac atg gtc ttc tac 791
 Asn Gly Asp Asp Asp Val Phe Ala His Thr Asp Asn Met Val Phe Tyr
 210 215 220

ctg cag gac cat gac cct ggc cgc cac ctc ttc gtg ggg caa ctg atc 839
 Leu Gln Asp His Asp Pro Gly Arg His Leu Phe Val Gly Gln Leu Ile
 225 230 235

caa aac gtg ggc ccc atc cgg gct ttt tgg agc aag tac tat gtg cca 887
 Gln Asn Val Gly Pro Ile Arg Ala Phe Trp Ser Lys Tyr Tyr Val Pro
 240 245 250 255

gag gtg gtg act cag aat gag cgg tac cca ccc tat tgt ggg ggt ggt 935
 Glu Val Val Thr Gln Asn Glu Arg Tyr Pro Pro Tyr Cys Gly Gly Gly
 260 265 270

ggc ttc ttg ctg tcc cgc ttc acg gcc gct gcc ctg cgc cgt gct gcc 983
 Gly Phe Leu Leu Ser Arg Phe Thr Ala Ala Ala Leu Arg Arg Ala Ala
 275 280 285

cat gtc ttg gac atc ttc ccc att gat gat gtc ttc ctg ggt atg tgt 1031
 His Val Leu Asp Ile Phe Pro Ile Asp Asp Val Phe Leu Gly Met Cys
 290 295 300

ctg gag ctt gag gga ctg aag cct gcc tcc cac agc ggc atc cgc acg 1079
 Leu Glu Leu Glu Gly Leu Lys Pro Ala Ser His Ser Gly Ile Arg Thr

305

310

315

tct ggc gtg cgg gct cca tcg caa cgc ctg tcc tcc ttt gac ccc tgc 1127

Ser Gly Val Arg Ala Pro Ser Gln Arg Leu Ser Ser Phe Asp Pro Cys

320

325

330

335

ttc tac cga gac ctg ctg ctg gtg cac cgc ttc cta cct tat gag atg 1175

Phe Tyr Arg Asp Leu Leu Leu Val His Arg Phe Leu Pro Tyr Glu Met

340

345

350

ctg ctc atg tgg gat gcg ctg aac cgg ccc aac ctc acc tgc ggc aat 1223

Leu Leu Met Trp Asp Ala Leu Asn Arg Pro Asn Leu Thr Cys Gly Asn

355

360

365

cag aca cag atc tac tgagtcagca tcagggtccc cagcctctgg gctcctgttt 1278

Gln Thr Gln Ile Tyr

370

ccataggaag gggcgacacc ttctcccag gaagctgaga cctttgtggt ctgagcataa 1338

gggagtgccca gggaagggttt gaggtttgat gagtgaatat actggctggc gaactcctac 1398

acatccttca aaacccacct ggtactgttc cagcatcttc cctggatggc tggaggaact 1458

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agagaacagc actggggctg gaatgatctt taatgggccc aaggccaaca ggcatatgcc 1998

tcactactgc ctggagaagg gagagattca ggtcctccag cagcctccct cgcccagtat 2058

gttttacaga ttacggggggg accgggtgag ccagtgaccc cctgtagccc ccagcttcag 2118

gcctcagtgt ctgccagtca agcttcacag gcattgtgat ggggcagcct tggggaatat 2178

aaaattttgt gaagacttgg 2198

<210> 176

<211> 372

<212> PRT

<213> Homo sapiens

<400> 176

Met Lys Tyr Leu Arg His Arg Arg Pro Asn Ala Thr Leu Ile Leu Ala

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Ile Gly Ala Phe Thr Leu Leu Leu Phe Ser Leu Leu Val Ser Pro Pro			
20	25	30	
Thr Cys Lys Val Gln Glu Gln Pro Pro Ala Ile Pro Glu Ala Leu Ala			
35	40	45	
Trp Pro Thr Pro Pro Thr Arg Pro Ala Pro Ala Pro Cys His Ala Asn			
50	55	60	
Thr Ser Met Val Thr His Pro Asn Phe Ala Thr Gln Pro Gln His Val			
65	70	75	80
Gln Asn Phe Leu Leu Tyr Arg His Cys Arg His Phe Pro Leu Leu Gln			
85	90	95	
Asp Val Pro Pro Ser Lys Cys Ala Gln Pro Val Phe Leu Leu Leu Val			
100	105	110	
Ile Lys Ser Ser Pro Ser Asn Tyr Val Arg Arg Glu Leu Leu Arg Arg			
115	120	125	
Thr Trp Gly Arg Glu Arg Lys Val Arg Gly Leu Gln Leu Arg Leu Leu			
130	135	140	
Phe Leu Val Gly Thr Ala Ser Asn Pro His Glu Ala Arg Lys Val Asn			
145	150	155	160

Arg Leu Leu Glu Leu Glu Ala Gln Thr His Gly Asp Ile Leu Gln Trp
165 170 175

Asp Phe His Asp Ser Phe Phe Asn Leu Thr Leu Lys Gln Val Leu Phe
180 185 190

Leu Gln Trp Gln Glu Thr Arg Cys Ala Asn Ala Ser Phe Val Leu Asn
195 200 205

Gly Asp Asp Asp Val Phe Ala His Thr Asp Asn Met Val Phe Tyr Leu
210 215 220

Gln Asp His Asp Pro Gly Arg His Leu Phe Val Gly Gln Leu Ile Gln
225 230 235 240

Asn Val Gly Pro Ile Arg Ala Phe Trp Ser Lys Tyr Tyr Val Pro Glu
245 250 255

Val Val Thr Gln Asn Glu Arg Tyr Pro Pro Tyr Cys Gly Gly Gly Gly
260 265 270

Phe Leu Leu Ser Arg Phe Thr Ala Ala Ala Leu Arg Arg Ala Ala His
275 280 285

Val Leu Asp Ile Phe Pro Ile Asp Asp Val Phe Leu Gly Met Cys Leu
290 295 300

Glu Leu Glu Gly Leu Lys Pro Ala Ser His Ser Gly Ile Arg Thr Ser
305 310 315 320

Gly Val Arg Ala Pro Ser Gln Arg Leu Ser Ser Phe Asp Pro Cys Phe

325 330 335

Tyr Arg Asp Leu Leu Leu Val His Arg Phe Leu Pro Tyr Glu Met Leu

340 345 350

Leu Met Trp Asp Ala Leu Asn Arg Pro Asn Leu Thr Cys Gly Asn Gln

355 360 365

Thr Gln Ile Tyr

370

<210> 177

<211> 2222

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (45)..(1532)

<400> 177

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Met Arg Ala Leu

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cga aga ctg att cag ggc agg atc ctg ctc ctg acc atc tgc gct gcc 104

Arg Arg Leu Ile Gln Gly Arg Ile Leu Leu Leu Thr Ile Cys Ala Ala
5 10 15 20

ggc att ggt ggg act ttt cag ttt ggc tat aac ctc tct atc atc aat 152
Gly Ile Gly Gly Thr Phe Gln Phe Gly Tyr Asn Leu Ser Ile Ile Asn
25 30 35

gcc ccg acc ttg cac att cag gaa ttc acc aat gag aca tgg cag gcg 200
Ala Pro Thr Leu His Ile Gln Glu Phe Thr Asn Glu Thr Trp Gln Ala
40 45 50

cgt act gga gag cca ctg ccc gat cac cta gtc ctg ctt atg tgg tcc 248
Arg Thr Gly Glu Pro Leu Pro Asp His Leu Val Leu Leu Met Trp Ser
55 60 65

ctc atc gtg tct ctg tat ccc ctg gga ggc ctc ttt gga gca ctg ctt 296
Leu Ile Val Ser Leu Tyr Pro Leu Gly Gly Leu Phe Gly Ala Leu Leu
70 75 80

gca ggt ccc ttg gcc atc acg ctg gga agg aag aag tcc ctc ctg gtg 344
Ala Gly Pro Leu Ala Ile Thr Leu Gly Arg Lys Lys Ser Leu Leu Val
85 90 95 100

aat aac atc ttt gtg gtg tca gca gca atc ctg ttt gga ttc agc cgc 392
Asn Asn Ile Phe Val Val Ser Ala Ala Ile Leu Phe Gly Phe Ser Arg
105 110 115

aaa gca ggc tcc ttt gag atg atc atg ctg gga aga ctg ctc gtg gga 440
Lys Ala Gly Ser Phe Glu Met Ile Met Leu Gly Arg Leu Leu Val Gly

120

125

130

gtc aat gca ggt gtg agc atg aac atc cag ccc atg tac ctg ggg gag 488

Val Asn Ala Gly Val Ser Met Asn Ile Gln Pro Met Tyr Leu Gly Glu

135

140

145

agc gcc cct aag gag ctc cga gga gct gtg gcc atg agc tca gcc atc 536

Ser Ala Pro Lys Glu Leu Arg Gly Ala Val Ala Met Ser Ser Ala Ile

150

155

160

ttt acg gct ctg ggg atc gtg atg gga cag gtg gtc gga ctc agg gag 584

Phe Thr Ala Leu Gly Ile Val Met Gly Gln Val Val Gly Leu Arg Glu

165

170

175

180

ctc cta ggt ggc cct cag gcc tgg ccc ctg ctg ctg gcc agc tgc ctg 632

Leu Leu Gly Gly Pro Gln Ala Trp Pro Leu Leu Leu Ala Ser Cys Leu

185

190

195

gtg ccc ggg gcg ctc cag ctc gcc tcc ctg cct ctg ctc cct gaa agc 680

Val Pro Gly Ala Leu Gln Leu Ala Ser Leu Pro Leu Leu Pro Glu Ser

200

205

210

ccg cgc tac ctc ctc att gac tgt gga gac acc gag gcc tgc ctg gca 728

Pro Arg Tyr Leu Leu Ile Asp Cys Gly Asp Thr Glu Ala Cys Leu Ala

215

220

225

gca cta cgg cgg ctc cgg ggc tcc ggg gac ttg gca ggg gag ctg gag 776

Ala Leu Arg Arg Leu Arg Gly Ser Gly Asp Leu Ala Gly Glu Leu Glu

230

235

240

gag ctg gag gag gag cgc gct gcc tgc cag ggc tgc cgt gcc cgg cgc 824
 Glu Leu Glu Glu Glu Arg Ala Ala Cys Gln Gly Cys Arg Ala Arg Arg
 245 250 255 260

cca tgg gag ctg ttc cag cat cgg gcc ctg agg aga cag gtg aca agc 872

Pro Trp Glu Leu Phe Gln His Arg Ala Leu Arg Arg Gln Val Thr Ser
 265 270 275

ctc gtg gtt ctg ggc agt gcc atg gag ctc tgc ggg aat gac tcg gtg 920
 Leu Val Val Leu Gly Ser Ala Met Glu Leu Cys Gly Asn Asp Ser Val
 280 285 290

tac gcc tac gcc tcc tcc gtg ttc cgg aag gca gga gtg ccg gaa gcg 968
 Tyr Ala Tyr Ala Ser Ser Val Phe Arg Lys Ala Gly Val Pro Glu Ala
 295 300 305

aag atc cag tac gcg atc atc ggg act ggg agc tgc gag ctg ctc acg 1016
 Lys Ile Gln Tyr Ala Ile Ile Gly Thr Gly Ser Cys Glu Leu Leu Thr
 310 315 320

gcg gtt gtt agt tgt gtg gta atc gag agg gtg ggt cgg cgc gtg ctg 1064
 Ala Val Val Ser Cys Val Val Ile Glu Arg Val Gly Arg Arg Val Leu
 325 330 335 340

ctc atc ggt ggg tac agc ctg atg acc tgc tgg ggg agc atc ttc act 1112
 Leu Ile Gly Gly Tyr Ser Leu Met Thr Cys Trp Gly Ser Ile Phe Thr
 345 350 355

gtg gcc ctg tgc ctg cag agc tcc ttc ccc tgg aca ctc tac ctg gcc 1160

Val Ala Leu Cys Leu Gln Ser Ser Phe Pro Trp Thr Leu Tyr Leu Ala

360

365

370

atg gcc tgc atc ttt gcc ttc atc ctc agc ttt ggc att ggc cct gcc 1208

Met Ala Cys Ile Phe Ala Phe Ile Leu Ser Phe Gly Ile Gly Pro Ala

375

380

385

gga gtg acg ggg atc ctg gcc aca gag ctg ttt gac cag atg gcc agg 1256

Gly Val Thr Gly Ile Leu Ala Thr Glu Leu Phe Asp Gln Met Ala Arg

390

395

400

cct gct gcc tgc atg gtc tgc ggg gcg ctc atg tgg atc atg ctc atc 1304

Pro Ala Ala Cys Met Val Cys Gly Ala Leu Met Trp Ile Met Leu Ile

405

410

415

420

ctg gtc ggc ctg gga ttt ccc ttt atc atg gag gcc ttg tcc cac ttc 1352

Leu Val Gly Leu Gly Phe Pro Phe Ile Met Glu Ala Leu Ser His Phe

425

430

435

ctc tat gtc cct ttc ctt ggt gtc tgt gtc tgt ggg gcc atc tac act 1400

Leu Tyr Val Pro Phe Leu Gly Val Cys Val Cys Gly Ala Ile Tyr Thr

440

445

450

ggc ctg ttc ctt cct gag acc aaa ggc aag acc ttc caa gag atc tcc 1448

Gly Leu Phe Leu Pro Glu Thr Lys Gly Lys Thr Phe Gln Glu Ile Ser

455

460

465

aag gaa tta cac aga ctc aac ttc ccc agg cgg gcc cag ggc ccc acg 1496

Lys Glu Leu His Arg Leu Asn Phe Pro Arg Arg Ala Gln Gly Pro Thr

470

475

480

tgg agg agc ctg gag gtt atc cag tca aca gaa ctc tagtcccaaa 1542

Trp Arg Ser Leu Glu Val Ile Gln Ser Thr Glu Leu

485

490

495

ggggtggcca gagccaaagc cagctactgt cctgtcctct gcttcctgcc agggccctgg 1602

tcctcactcc ctctgcatt cctcatTTaa ggagtgttta ttgagcacc tttgtgtgca 1662

gacatggctc caggtgctta gcaatcaatg gtgagcgtgg tattccaggc taaaggtaat 1722

taactgacag aaaatcagta acaacataat tacaggctgg ttgtggcagc tcatgactgt 1782

aatcccagca ctttgggagg ccaaggtggg aggatcaatt gaggccagag tttgaaacca 1842

gcctaggtaa catagtga cccctacct ctacaaaaa ttttaaacat tagctgggca 1902

tggtggtatg tgctaacagc tctagctact caggaggctg aggcagcagg atcacttgag 1962

tccaagagtt caaggtagca gtaagctaca atcacaccac tgcattgccag actgggtgac 2022

agagggagac ttcatctctt taaaacataa taataataat tacagactca ggaaatgcag 2082

tgaaagaaaa atacaggttg gccaggtgag gtggctgatg cctgtaatcc cagcactttg 2142

ggaggccaag atgggaagat tgctttgaga ccagaagttt gagaccagcc tgggccacat 2202

agtaagatcc tgtttctacc

2222

<210> 178

<211> 496

<212> PRT

<213> Homo sapiens

<400> 178

Met Arg Ala Leu Arg Arg Leu Ile Gln Gly Arg Ile Leu Leu Leu Thr

1 5 10 15

Ile Cys Ala Ala Gly Ile Gly Gly Thr Phe Gln Phe Gly Tyr Asn Leu

20 25 30

Ser Ile Ile Asn Ala Pro Thr Leu His Ile Gln Glu Phe Thr Asn Glu

35 40 45

Thr Trp Gln Ala Arg Thr Gly Glu Pro Leu Pro Asp His Leu Val Leu

50 55 60

Leu Met Trp Ser Leu Ile Val Ser Leu Tyr Pro Leu Gly Gly Leu Phe

65 70 75 80

Gly Ala Leu Leu Ala Gly Pro Leu Ala Ile Thr Leu Gly Arg Lys Lys

85 90 95

Ser Leu Leu Val Asn Asn Ile Phe Val Val Ser Ala Ala Ile Leu Phe

100 105 110

Gly Phe Ser Arg Lys Ala Gly Ser Phe Glu Met Ile Met Leu Gly Arg

115

120

125

Leu Leu Val Gly Val Asn Ala Gly Val Ser Met Asn Ile Gln Pro Met

130

135

140

Tyr Leu Gly Glu Ser Ala Pro Lys Glu Leu Arg Gly Ala Val Ala Met

145

150

155

160

Ser Ser Ala Ile Phe Thr Ala Leu Gly Ile Val Met Gly Gln Val Val

165

170

175

Gly Leu Arg Glu Leu Leu Gly Gly Pro Gln Ala Trp Pro Leu Leu Leu

180

185

190

Ala Ser Cys Leu Val Pro Gly Ala Leu Gln Leu Ala Ser Leu Pro Leu

195

200

205

Leu Pro Glu Ser Pro Arg Tyr Leu Leu Ile Asp Cys Gly Asp Thr Glu

210

215

220

Ala Cys Leu Ala Ala Leu Arg Arg Leu Arg Gly Ser Gly Asp Leu Ala

225

230

235

240

Gly Glu Leu Glu Glu Leu Glu Glu Glu Arg Ala Ala Cys Gln Gly Cys

245

250

255

Arg Ala Arg Arg Pro Trp Glu Leu Phe Gln His Arg Ala Leu Arg Arg

260

265

270

Gln Val Thr Ser Leu Val Val Leu Gly Ser Ala Met Glu Leu Cys Gly

275

280

285

Asn Asp Ser Val Tyr Ala Tyr Ala Ser Ser Val Phe Arg Lys Ala Gly

290

295

300

Val Pro Glu Ala Lys Ile Gln Tyr Ala Ile Ile Gly Thr Gly Ser Cys

305

310

315

320

Glu Leu Leu Thr Ala Val Val Ser Cys Val Val Ile Glu Arg Val Gly

325

330

335

Arg Arg Val Leu Leu Ile Gly Gly Tyr Ser Leu Met Thr Cys Trp Gly

340

345

350

Ser Ile Phe Thr Val Ala Leu Cys Leu Gln Ser Ser Phe Pro Trp Thr

355

360

365

Leu Tyr Leu Ala Met Ala Cys Ile Phe Ala Phe Ile Leu Ser Phe Gly

370

375

380

Ile Gly Pro Ala Gly Val Thr Gly Ile Leu Ala Thr Glu Leu Phe Asp

385

390

395

400

Gln Met Ala Arg Pro Ala Ala Cys Met Val Cys Gly Ala Leu Met Trp

405

410

415

Ile Met Leu Ile Leu Val Gly Leu Gly Phe Pro Phe Ile Met Glu Ala
 420 425 430

Leu Ser His Phe Leu Tyr Val Pro Phe Leu Gly Val Cys Val Cys Gly
 435 440 445

Ala Ile Tyr Thr Gly Leu Phe Leu Pro Glu Thr Lys Gly Lys Thr Phe
 450 455 460

Gln Glu Ile Ser Lys Glu Leu His Arg Leu Asn Phe Pro Arg Arg Ala
 465 470 475 480

Gln Gly Pro Thr Trp Arg Ser Leu Glu Val Ile Gln Ser Thr Glu Leu
 485 490 495

<210> 179

<211> 1320

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (90)..(902)

<400> 179

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ctgggggagg agggcgaagc gacgcggcg atg gct ccg cgg gca ctc ccg ggg 113

Met Ala Pro Arg Ala Leu Pro Gly

1

5

tcc gcc gtc cta gcc gct gct gtc ttc gtg gga ggc gcc gtg agt tcg 161

Ser Ala Val Leu Ala Ala Ala Val Phe Val Gly Gly Ala Val Ser Ser

10

15

20

ccg ctg gtg gct ccg gac aat ggg agc agc cgc gca ttg cac tcc aga 209

Pro Leu Val Ala Pro Asp Asn Gly Ser Ser Arg Ala Leu His Ser Arg

25

30

35

40

aca gag acg acc ccg tcg ccc agc aac gat act ggg aat gga cac cca 257

Thr Glu Thr Thr Pro Ser Pro Ser Asn Asp Thr Gly Asn Gly His Pro

45

50

55

gaa tat att gca tac gcg ctt gtc cct gtg ttc ttt atc atg ggt ctc 305

Glu Tyr Ile Ala Tyr Ala Leu Val Pro Val Phe Phe Ile Met Gly Leu

60

65

70

ttt ggc gtc ctc att tgc cac ctg ctt aag aag aaa ggc tat cgt tgt 353

Phe Gly Val Leu Ile Cys His Leu Leu Lys Lys Lys Gly Tyr Arg Cys

75

80

85

aca aca gaa gca gag caa gat atc gaa gag gaa aag gtt gaa aag ata 401

Thr Thr Glu Ala Glu Gln Asp Ile Glu Glu Glu Lys Val Glu Lys Ile

90

95

100

gaa ttg aat gac agt gtg aat gaa aac agt gac act gtt ggg caa atc 449

Glu Leu Asn Asp Ser Val Asn Glu Asn Ser Asp Thr Val Gly Gln Ile

105 110 115 120

gtc cac tac atc atg aaa aat gaa gcg aat gct gat gtc tta aag gcg 497

Val His Tyr Ile Met Lys Asn Glu Ala Asn Ala Asp Val Leu Lys Ala

125 130 135

atg gta gca gat aac agc ctg tat gat cct gaa agc ccc gtg acc ccc 545

Met Val Ala Asp Asn Ser Leu Tyr Asp Pro Glu Ser Pro Val Thr Pro

140 145 150

agc aca cca ggg agc ccg cca gtg agt cct ggg cct ttg tca cca ggg 593

Ser Thr Pro Gly Ser Pro Pro Val Ser Pro Gly Pro Leu Ser Pro Gly

155 160 165

ggg acg cca ggg aag cac gtc tgt ggc cat cat ctg cat acg gtg ggc 641

Gly Thr Pro Gly Lys His Val Cys Gly His His Leu His Thr Val Gly

170 175 180

ggt gtt gtc gag agg gat gtg tgt cat cgg tgt agg cac aag cgg tgg 689

Gly Val Val Glu Arg Asp Val Cys His Arg Cys Arg His Lys Arg Trp

185 190 195 200

cac ttt ata aag ccc act aac aag tcc aga gag agc aga cca cgg cgc 737

His Phe Ile Lys Pro Thr Asn Lys Ser Arg Glu Ser Arg Pro Arg Arg

205 210 215

caa ggc gag gtc acg gtc ctt tct gtt ggc aga ttt aga gtt aca aaa 785

Gln Gly Glu Val Thr Val Leu Ser Val Gly Arg Phe Arg Val Thr Lys

220 225 230

gtg gag cac aag tca aac cag aag gaa cgg aga agc ctg atg tct gtt 833

Val Glu His Lys Ser Asn Gln Lys Glu Arg Arg Ser Leu Met Ser Val

235

240

245

agt ggg gct gaa acc gtc aat ggg gag gtg ccg gca aca cct gtg aag 881

Ser Gly Ala Glu Thr Val Asn Gly Glu Val Pro Ala Thr Pro Val Lys

250

255

260

aga gaa cgc agt ggc aca gag tagcagtgtc ctgaatgaca gctcatctac 932

Arg Glu Arg Ser Gly Thr Glu

265

270

acagagtga aactccagata tctgacaagc agcatgggac agatgctgac aatcagaaca 992

gatgctggat gtaaacaact ggtaaggctg cactgggtgca tgctggcaga atcacctgct 1052

atgcatccag ggagcaaagt catctgcatg ctcagcatga caccagctta cctccctgtg 1112

caaatcccct cccctaata gtcctcatcca aatcttctcc tgcagtagca gcttctaaag 1172

ctgcaagggc ctccgccacc gctgcatcct cgtccacaat ctccccatcc ccattcccat 1232

cggagccatg ggtatcccc tgcctgtttc ctgagtcaac cacaggcatg gcatgaacag 1292

gacccttctc attaaagcag atgcttag

1320

<210> 180

<211> 271

<212> PRT

<213> Homo sapiens

<400> 180

Met Ala Pro Arg Ala Leu Pro Gly Ser Ala Val Leu Ala Ala Ala Val

1

5

10

15

Phe Val Gly Gly Ala Val Ser Ser Pro Leu Val Ala Pro Asp Asn Gly

20

25

30

Ser Ser Arg Ala Leu His Ser Arg Thr Glu Thr Thr Pro Ser Pro Ser

35

40

45

Asn Asp Thr Gly Asn Gly His Pro Glu Tyr Ile Ala Tyr Ala Leu Val

50

55

60

Pro Val Phe Phe Ile Met Gly Leu Phe Gly Val Leu Ile Cys His Leu

65

70

75

80

Leu Lys Lys Lys Gly Tyr Arg Cys Thr Thr Glu Ala Glu Gln Asp Ile

85

90

95

Glu Glu Glu Lys Val Glu Lys Ile Glu Leu Asn Asp Ser Val Asn Glu

100

105

110

Asn Ser Asp Thr Val Gly Gln Ile Val His Tyr Ile Met Lys Asn Glu

115

120

125

Ala Asn Ala Asp Val Leu Lys Ala Met Val Ala Asp Asn Ser Leu Tyr

130

135

140

Asp Pro Glu Ser Pro Val Thr Pro Ser Thr Pro Gly Ser Pro Pro Val

145

150

155

160

Ser Pro Gly Pro Leu Ser Pro Gly Gly Thr Pro Gly Lys His Val Cys

165

170

175

Gly His His Leu His Thr Val Gly Gly Val Val Glu Arg Asp Val Cys

180

185

190

His Arg Cys Arg His Lys Arg Trp His Phe Ile Lys Pro Thr Asn Lys

195

200

205

Ser Arg Glu Ser Arg Pro Arg Arg Gln Gly Glu Val Thr Val Leu Ser

210

215

220

Val Gly Arg Phe Arg Val Thr Lys Val Glu His Lys Ser Asn Gln Lys

225

230

235

240

Glu Arg Arg Ser Leu Met Ser Val Ser Gly Ala Glu Thr Val Asn Gly

245

250

255

Glu Val Pro Ala Thr Pro Val Lys Arg Glu Arg Ser Gly Thr Glu

260

265

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<210> 181

<211> 2167

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (15)..(1748)

<400> 181

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Met Ala Ala Ala Met Pro Leu Ala Leu Leu Val Leu

1

5

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ttg ctc ctg ggg ccc ggc ggc tgg tgc ctt gca gaa ccc cca cgc gac 98

Leu Leu Leu Gly Pro Gly Gly Trp Cys Leu Ala Glu Pro Pro Arg Asp

15

20

25

agc ctg cgg gag gaa ctt gtc atc acc ccg ctg cct tcc ggg gac gta 146

Ser Leu Arg Glu Glu Leu Val Ile Thr Pro Leu Pro Ser Gly Asp Val

30

35

40

gcc gcc aca ttc cag ttc cgc acg cgc tgg gat tcg gag ctt cag cgg 194

Ala Ala Thr Phe Gln Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg

45

50

55

60

gaa gga gtg tcc cat tac agg ctc ttt ccc aaa gcc ctg ggg cag ctg 242

Glu Gly Val Ser His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu

65

70

75

atc tcc aag tat tct cta cgg gag ctg cac ctg tca ttc aca caa ggc 290

Ile Ser Lys Tyr Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly

80

85

90

ttt tgg agg acc cga tac tgg ggg cca ccc ttc ctg cag gcc cca tca 338

Phe Trp Arg Thr Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser

95

100

105

ggt gca gag ctg tgg gtc tgg ttc caa gac act gtc act gat gtg gat 386

Gly Ala Glu Leu Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp

110

115

120

aaa tct tgg aag gag ctc agt aat gtc ctc tca ggg atc ttc tgc gcc 434

Lys Ser Trp Lys Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys Ala

125

130

135

140

tct ctc aac ttc atc gac tcc acc aac aca gtc act ccc act gcc tcc 482

Ser Leu Asn Phe Ile Asp Ser Thr Asn Thr Val Thr Pro Thr Ala Ser

145

150

155

ttc aaa ccc ctg ggt ctg gcc aat gac act gac cac tac ttt ctg cgc 530

Phe Lys Pro Leu Gly Leu Ala Asn Asp Thr Asp His Tyr Phe Leu Arg

160

165

170

tat gct gtg ctg ccg cgg gag gtg gtc tgc acc gaa aac ctc acc ccc 578

Tyr Ala Val Leu Pro Arg Glu Val Val Cys Thr Glu Asn Leu Thr Pro

175

180

185

tgg aag aag ctc ttg ccc tgt agt tcc aag gca ggc ctc tct gtg ctg 626

Trp Lys Lys Leu Leu Pro Cys Ser Ser Lys Ala Gly Leu Ser Val Leu
190 195 200

ctg aag gca gat cgc ttg ttc cac acc agc tac cac tcc cag gca gtg 674
Leu Lys Ala Asp Arg Leu Phe His Thr Ser Tyr His Ser Gln Ala Val
205 210 215 220

cat atc cgc cct gtt tgc aga aat gca cgc tgt act agc atc tcc tgg 722
His Ile Arg Pro Val Cys Arg Asn Ala Arg Cys Thr Ser Ile Ser Trp
225 230 235

gag ctg agg cag acc ctg tca gtt gta ttt gat gcc ttc atc acg ggg 770
Glu Leu Arg Gln Thr Leu Ser Val Val Phe Asp Ala Phe Ile Thr Gly
240 245 250

cag gga aag aaa gac tgg tcc ctc ttc cgg atg ttc tcc cga acc ctc 818
Gln Gly Lys Lys Asp Trp Ser Leu Phe Arg Met Phe Ser Arg Thr Leu
255 260 265

acg gag ccc tgc ccc ctg gct tca gag agc cga gtc tat gtg gac atc 866
Thr Glu Pro Cys Pro Leu Ala Ser Glu Ser Arg Val Tyr Val Asp Ile
270 275 280

acc acc tac aac cag gac aac gag aca tta gag gtg cac cca ccc ccg 914
Thr Thr Tyr Asn Gln Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro
285 290 295 300

acc act aca tat cag gac gtc atc cta ggc act cgg aag acc tat gcc 962
Thr Thr Thr Tyr Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala

305	310	315	
atc tat gac ttg ctt gac acc gcc atg atc aac aac tct cga aac ctc 1010			
Ile Tyr Asp Leu Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu			
320	325	330	

aac atc cag ctc aag tgg aag aga ccc cca gag aat gag gcc ccc cca 1058
Asn Ile Gln Leu Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro
335 340 345

gtg ccc ttc ctg cat gcc cag cgg tac gtg agt ggc tat ggg ctg cag 1106
Val Pro Phe Leu His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln
350 355 360

aag ggg gag ctg agc aca ctg ctg tac aac acc cac cca tac cgg gcc 1154
Lys Gly Glu Leu Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg Ala
365 370 375 380

ttc ccg gtg ctg ctg ctg gac acc gta ccc tgg tat ctg cgg ctg tat 1202
Phe Pro Val Leu Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg Leu Tyr
385 390 395

gtg cac acc ctc acc atc acc tcc aag ggc aag gag aac aaa cca agt 1250
Val His Thr Leu Thr Ile Thr Ser Lys Gly Lys Glu Asn Lys Pro Ser
400 405 410

tac atc cac tac cag cct gcc cag gac cgg ctg caa ccc cac ctc ctg 1298
Tyr Ile His Tyr Gln Pro Ala Gln Asp Arg Leu Gln Pro His Leu Leu
415 420 425

gag atg ctg att cag ctg ccg gcc aac tca gtc acc aag gtt tcc atc 1346

Glu Met Leu Ile Gln Leu Pro Ala Asn Ser Val Thr Lys Val Ser Ile

430

435

440

cag ttt gag cgg gcg ctg ctg aag tgg acc gag tac acg cca gat cct 1394

Gln Phe Glu Arg Ala Leu Leu Lys Trp Thr Glu Tyr Thr Pro Asp Pro

445

450

455

460

aac cat ggc ttc tat gtc agc cca tct gtc ctc agc gcc ctt gtg ccc 1442

Asn His Gly Phe Tyr Val Ser Pro Ser Val Leu Ser Ala Leu Val Pro

465

470

475

agc atg gta gca gcc aag cca gtg gac tgg gaa gag agt ccc ctc ttc 1490

Ser Met Val Ala Ala Lys Pro Val Asp Trp Glu Glu Ser Pro Leu Phe

480

485

490

aac agc ctg ttc cca gtc tct gat ggc tct aac tac ttt gtg cgg ctc 1538

Asn Ser Leu Phe Pro Val Ser Asp Gly Ser Asn Tyr Phe Val Arg Leu

495

500

505

tac acg gag ccg ctg ctg gtg aac ctg ccg aca ccg gac ttc agc atg 1586

Tyr Thr Glu Pro Leu Leu Val Asn Leu Pro Thr Pro Asp Phe Ser Met

510

515

520

ccc tac aac gtg atc tgc ctc acg tgc act gtg gtg gcc gtg tgc tat 1634

Pro Tyr Asn Val Ile Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr

525

530

535

540

ggc tcc ttc tac aat ctc ctc acc cga acc ttc cac atc gag gag ccc 1682

Gly Ser Phe Tyr Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro

545

550

555

cgc aca ggt ggc ctg gcc aag cgg ctg gcc aac ctt atc cgg cgc gcc 1730

Arg Thr Gly Gly Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala

560

565

570

cga ggt gtc ccc cca ctc tgattcttgc cctttccagc agctgcagct 1778

Arg Gly Val Pro Pro Leu

575

gccgtttctc tctggggagg ggagcccaag ggctgtttct gccacttgct ctcctcagag 1838

ttggcttttg aaccaaagt ccctggacca ggtcagggcc tacagctgtg ttgtccagta 1898

caggagccac gagccaaatg tggcatttga atttgaatta acttagaaat tcatttcctc 1958

acctgtagtg gccacctcta tattgaggtg ctcaataagc aaaagtggtc ggtggctgct 2018

gtattggaca gcacagaaaa agatttccat caccacagaa aggtcggctg gcagcactgg 2078

ccaaggtgat ggggtgtgct acacagtgtg tgtcactgtg tagtggatgg agtttactgt 2138

ttgtggaata aaaacggctg tttccgtgg 2167

<210> 182

<211> 578

<212> PRT

<213> Homo sapiens

<400> 182

Met Ala Ala Ala Met Pro Leu Ala Leu Leu Val Leu Leu Leu Leu Gly

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Pro Gly Gly Trp Cys Leu Ala Glu Pro Pro Arg Asp Ser Leu Arg Glu

20

25

30

Glu Leu Val Ile Thr Pro Leu Pro Ser Gly Asp Val Ala Ala Thr Phe

35

40

45

Gln Phe Arg Thr Arg Trp Asp Ser Glu Leu Gln Arg Glu Gly Val Ser

50

55

60

His Tyr Arg Leu Phe Pro Lys Ala Leu Gly Gln Leu Ile Ser Lys Tyr

65

70

75

80

Ser Leu Arg Glu Leu His Leu Ser Phe Thr Gln Gly Phe Trp Arg Thr

85

90

95

Arg Tyr Trp Gly Pro Pro Phe Leu Gln Ala Pro Ser Gly Ala Glu Leu

100

105

110

Trp Val Trp Phe Gln Asp Thr Val Thr Asp Val Asp Lys Ser Trp Lys

115

120

125

Glu Leu Ser Asn Val Leu Ser Gly Ile Phe Cys Ala Ser Leu Asn Phe

130

135

140

Ile Asp Ser Thr Asn Thr Val Thr Pro Thr Ala Ser Phe Lys Pro Leu

145

150

155

160

Gly Leu Ala Asn Asp Thr Asp His Tyr Phe Leu Arg Tyr Ala Val Leu

165

170

175

Pro Arg Glu Val Val Cys Thr Glu Asn Leu Thr Pro Trp Lys Lys Leu

180

185

190

Leu Pro Cys Ser Ser Lys Ala Gly Leu Ser Val Leu Leu Lys Ala Asp

195

200

205

Arg Leu Phe His Thr Ser Tyr His Ser Gln Ala Val His Ile Arg Pro

210

215

220

Val Cys Arg Asn Ala Arg Cys Thr Ser Ile Ser Trp Glu Leu Arg Gln

225

230

235

240

Thr Leu Ser Val Val Phe Asp Ala Phe Ile Thr Gly Gln Gly Lys Lys

245

250

255

Asp Trp Ser Leu Phe Arg Met Phe Ser Arg Thr Leu Thr Glu Pro Cys

260

265

270

Pro Leu Ala Ser Glu Ser Arg Val Tyr Val Asp Ile Thr Thr Tyr Asn

275

280

285

Gln Asp Asn Glu Thr Leu Glu Val His Pro Pro Pro Thr Thr Thr Tyr
290 295 300

Gln Asp Val Ile Leu Gly Thr Arg Lys Thr Tyr Ala Ile Tyr Asp Leu
305 310 315 320

Leu Asp Thr Ala Met Ile Asn Asn Ser Arg Asn Leu Asn Ile Gln Leu
325 330 335

Lys Trp Lys Arg Pro Pro Glu Asn Glu Ala Pro Pro Val Pro Phe Leu
340 345 350

His Ala Gln Arg Tyr Val Ser Gly Tyr Gly Leu Gln Lys Gly Glu Leu
355 360 365

Ser Thr Leu Leu Tyr Asn Thr His Pro Tyr Arg Ala Phe Pro Val Leu
370 375 380

Leu Leu Asp Thr Val Pro Trp Tyr Leu Arg Leu Tyr Val His Thr Leu
385 390 395 400

Thr Ile Thr Ser Lys Gly Lys Glu Asn Lys Pro Ser Tyr Ile His Tyr
405 410 415

Gln Pro Ala Gln Asp Arg Leu Gln Pro His Leu Leu Glu Met Leu Ile
420 425 430

Gln Leu Pro Ala Asn Ser Val Thr Lys Val Ser Ile Gln Phe Glu Arg
435 440 445

Ala Leu Leu Lys Trp Thr Glu Tyr Thr Pro Asp Pro Asn His Gly Phe

450

455

460

Tyr Val Ser Pro Ser Val Leu Ser Ala Leu Val Pro Ser Met Val Ala

465

470

475

480

Ala Lys Pro Val Asp Trp Glu Glu Ser Pro Leu Phe Asn Ser Leu Phe

485

490

495

Pro Val Ser Asp Gly Ser Asn Tyr Phe Val Arg Leu Tyr Thr Glu Pro

500

505

510

Leu Leu Val Asn Leu Pro Thr Pro Asp Phe Ser Met Pro Tyr Asn Val

515

520

525

Ile Cys Leu Thr Cys Thr Val Val Ala Val Cys Tyr Gly Ser Phe Tyr

530

535

540

Asn Leu Leu Thr Arg Thr Phe His Ile Glu Glu Pro Arg Thr Gly Gly

545

550

555

560

Leu Ala Lys Arg Leu Ala Asn Leu Ile Arg Arg Ala Arg Gly Val Pro

565

570

575

Pro Leu

<210> 183
 <211> 1877
 <212> DNA
 <213> Homo sapiens

<220>

<221> CDS
 <222> (24)..(1412)

<400> 183

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Met His Gly Ser Cys Ser Phe Leu Met Leu

1 5 10

ctg ctg ccg cta ctg cta ctg ctg gtg gcc acc aca ggc ccc gtt gga 101

Leu Leu Pro Leu Leu Leu Leu Val Ala Thr Thr Gly Pro Val Gly

15 20 25

gcc ctc aca gat gag gag aaa cgt ttg atg gtg gag ctg cac aac ctc 149

Ala Leu Thr Asp Glu Glu Lys Arg Leu Met Val Glu Leu His Asn Leu

30 35 40

tac cgg gcc cag gta tcc ccg ccg gcc tca gac atg ctg cac atg aga 197

Tyr Arg Ala Gln Val Ser Pro Pro Ala Ser Asp Met Leu His Met Arg

45 50 55

tgg gac gag gag ctg gcc gcc ttc gcc aag gcc tac gca cgg cag tgc 245

Trp Asp Glu Glu Leu Ala Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys

60 65 70

gtg tgg ggc cac aac aag gag cgc ggg cgc cgc ggc gag aat ctg ttc 293
 Val Trp Gly His Asn Lys Glu Arg Gly Arg Arg Gly Glu Asn Leu Phe
 75 80 85 90

gcc atc aca gac gag ggc atg gac gtg ccg ctg gcc atg gag gag tgg 341

Ala Ile Thr Asp Glu Gly Met Asp Val Pro Leu Ala Met Glu Glu Trp
 95 100 105

cac cac gag cgt gag cac tac aac ctc agc gcc gcc acc tgc agc cca 389
 His His Glu Arg Glu His Tyr Asn Leu Ser Ala Ala Thr Cys Ser Pro
 110 115 120

ggc cag atg tgc ggc cac tac acg cag gtg gta tgg gcc aag aca gag 437
 Gly Gln Met Cys Gly His Tyr Thr Gln Val Val Trp Ala Lys Thr Glu
 125 130 135

agg atc ggc tgt ggt tcc cac ttc tgt gag aag ctc cag ggt gtt gag 485
 Arg Ile Gly Cys Gly Ser His Phe Cys Glu Lys Leu Gln Gly Val Glu
 140 145 150

gag acc aac atc gaa tta ctg gtg tgc aac tat gag cct ccg ggg aac 533
 Glu Thr Asn Ile Glu Leu Leu Val Cys Asn Tyr Glu Pro Pro Gly Asn
 155 160 165 170

gtg aag ggg aaa cgg ccc tac cag ggg ggg act ccg tgc tcc caa tgt 581
 Val Lys Gly Lys Arg Pro Tyr Gln Gly Gly Thr Pro Cys Ser Gln Cys
 175 180 185

ccc tct ggc tac cac tgc aag aac tcc ctc tgt gaa ccc atc gga agc 629

Pro Ser Gly Tyr His Cys Lys Asn Ser Leu Cys Glu Pro Ile Gly Ser

190

195

200

ccg gaa gat gct cag gat ttg cct tac ctg gta act gag gcc cca tcc 677

Pro Glu Asp Ala Gln Asp Leu Pro Tyr Leu Val Thr Glu Ala Pro Ser

205

210

215

ttc cgg gcg act gaa gca tca gac tct agg aaa atg ggt act cct tct 725

Phe Arg Ala Thr Glu Ala Ser Asp Ser Arg Lys Met Gly Thr Pro Ser

220

225

230

tcc cta gca acg ggg att ccg gct ttc ttg gta aca gag gtc tca ggc 773

Ser Leu Ala Thr Gly Ile Pro Ala Phe Leu Val Thr Glu Val Ser Gly

235

240

245

250

tcc ctg gca acc aag gct ctg cct gct gtg gaa acc cag gcc cca act 821

Ser Leu Ala Thr Lys Ala Leu Pro Ala Val Glu Thr Gln Ala Pro Thr

255

260

265

tcc tta gca acg aag gac ccg ccc tcc atg gca aca gag gct cca cct 869

Ser Leu Ala Thr Lys Asp Pro Pro Ser Met Ala Thr Glu Ala Pro Pro

270

275

280

tgc gta aca act gag gcc cct tcc att ttg gca gct cac agc ctg ccc 917

Cys Val Thr Thr Glu Ala Pro Ser Ile Leu Ala Ala His Ser Leu Pro

285

290

295

tcc ttg gat gag gag cca gtt acc ttc ccc aaa tcg acc cat gtt cct 965

Ser Leu Asp Glu Glu Pro Val Thr Phe Pro Lys Ser Thr His Val Pro

300

305

310

atc cca aaa tca gca gac aaa gtg aca gac aaa aca aaa gtg ccc tct 1013

Ile Pro Lys Ser Ala Asp Lys Val Thr Asp Lys Thr Lys Val Pro Ser

315

320

325

330

agg agc cca gag aac tct ctg gac ccc aag atg tcc ctg aca ggg gca 1061

Arg Ser Pro Glu Asn Ser Leu Asp Pro Lys Met Ser Leu Thr Gly Ala

335

340

345

agg gag ctc cta ccc cat gcc cag gag gag gct gag gct gag gct gag 1109

Arg Glu Leu Leu Pro His Ala Gln Glu Glu Ala Glu Ala Glu Ala Glu

350

355

360

ttg cct cct tcc agt gag gtc ttg gcc tca gtt ttt cca gcc cag gac 1157

Leu Pro Pro Ser Ser Glu Val Leu Ala Ser Val Phe Pro Ala Gln Asp

365

370

375

aag cca ggt gag ctg cag gcc aca ctg gac cac acg ggg cac acc tcc 1205

Lys Pro Gly Glu Leu Gln Ala Thr Leu Asp His Thr Gly His Thr Ser

380

385

390

tcc aag tcc ctg ccc aat ttc ccc aat acc tct gcc acc gct aat gcc 1253

Ser Lys Ser Leu Pro Asn Phe Pro Asn Thr Ser Ala Thr Ala Asn Ala

395

400

405

410

acg ggt ggg cgt gcc ctg gct ctg cag tcg tcc ttg cca ggt gca gag 1301

Thr Gly Gly Arg Ala Leu Ala Leu Gln Ser Ser Leu Pro Gly Ala Glu

415

420

425

ggc cct gac aag cct agc gtc gtg tca ggg ctg aac tcg ggc cct ggt 1349

Gly Pro Asp Lys Pro Ser Val Val Ser Gly Leu Asn Ser Gly Pro Gly

430

435

440

cat gtg tgg ggc cct ctc ctg gga cta ctg ctc ctg cct cct ctg gtg 1397

His Val Trp Gly Pro Leu Leu Gly Leu Leu Leu Leu Pro Pro Leu Val

445

450

455

ttg gct gga atc ttc tgaaggggat accactcaaa gggatgaagag gtcagctgtc 1452

Leu Ala Gly Ile Phe

460

ctcctgtcat ctccccacc ctgtccccag cccctaaaca agatacttct tggttaaggc 1512

cctccggaag ggaaaggcta cggggcatgt gcctcatcac accatccatc ctggaggcac 1572

aaggcctggc tggctgcgag ctcaggaggc cgcctgagga ctgcacaccg ggccccacacc 1632

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ggggatgggg attcctaggg gcagatgaag gacaagcccc actggagtggt ggttctttga 1812

gtgggggagg cagggacgag ggaaggaaag taactcctga ctctccaata aaaacctgtc 1872

caacc

1877

<210> 184
 <211> 463
 <212> PRT
 <213> Homo sapiens

<400> 184
 Met His Gly Ser Cys Ser Phe Leu Met Leu Leu Leu Pro Leu Leu Leu
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 Leu Leu Val Ala Thr Thr Gly Pro Val Gly Ala Leu Thr Asp Glu Glu
 20 25 30
 Lys Arg Leu Met Val Glu Leu His Asn Leu Tyr Arg Ala Gln Val Ser
 35 40 45
 Pro Pro Ala Ser Asp Met Leu His Met Arg Trp Asp Glu Glu Leu Ala
 50 55 60
 Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys Val Trp Gly His Asn Lys
 65 70 75 80
 Glu Arg Gly Arg Arg Gly Glu Asn Leu Phe Ala Ile Thr Asp Glu Gly
 85 90 95
 Met Asp Val Pro Leu Ala Met Glu Glu Trp His His Glu Arg Glu His
 100 105 110

Tyr Asn Leu Ser Ala Ala Thr Cys Ser Pro Gly Gln Met Cys Gly His
115 120 125

Tyr Thr Gln Val Val Trp Ala Lys Thr Glu Arg Ile Gly Cys Gly Ser
130 135 140

His Phe Cys Glu Lys Leu Gln Gly Val Glu Glu Thr Asn Ile Glu Leu
145 150 155 160

Leu Val Cys Asn Tyr Glu Pro Pro Gly Asn Val Lys Gly Lys Arg Pro
165 170 175

Tyr Gln Gly Gly Thr Pro Cys Ser Gln Cys Pro Ser Gly Tyr His Cys
180 185 190

Lys Asn Ser Leu Cys Glu Pro Ile Gly Ser Pro Glu Asp Ala Gln Asp
195 200 205

Leu Pro Tyr Leu Val Thr Glu Ala Pro Ser Phe Arg Ala Thr Glu Ala
210 215 220

Ser Asp Ser Arg Lys Met Gly Thr Pro Ser Ser Leu Ala Thr Gly Ile
225 230 235 240

Pro Ala Phe Leu Val Thr Glu Val Ser Gly Ser Leu Ala Thr Lys Ala
245 250 255

Leu Pro Ala Val Glu Thr Gln Ala Pro Thr Ser Leu Ala Thr Lys Asp
260 265 270

Pro Pro Ser Met Ala Thr Glu Ala Pro Pro Cys Val Thr Thr Glu Ala
275 280 285

Pro Ser Ile Leu Ala Ala His Ser Leu Pro Ser Leu Asp Glu Glu Pro
290 295 300

Val Thr Phe Pro Lys Ser Thr His Val Pro Ile Pro Lys Ser Ala Asp
305 310 315 320

Lys Val Thr Asp Lys Thr Lys Val Pro Ser Arg Ser Pro Glu Asn Ser
325 330 335

Leu Asp Pro Lys Met Ser Leu Thr Gly Ala Arg Glu Leu Leu Pro His
340 345 350

Ala Gln Glu Glu Ala Glu Ala Glu Ala Glu Leu Pro Pro Ser Ser Glu
355 360 365

Val Leu Ala Ser Val Phe Pro Ala Gln Asp Lys Pro Gly Glu Leu Gln
370 375 380

Ala Thr Leu Asp His Thr Gly His Thr Ser Ser Lys Ser Leu Pro Asn
385 390 395 400

Phe Pro Asn Thr Ser Ala Thr Ala Asn Ala Thr Gly Gly Arg Ala Leu
405 410 415

Ala Leu Gln Ser Ser Leu Pro Gly Ala Glu Gly Pro Asp Lys Pro Ser

420

425

430

Val Val Ser Gly Leu Asn Ser Gly Pro Gly His Val Trp Gly Pro Leu

435

440

445

Leu Gly Leu Leu Leu Leu Pro Pro Leu Val Leu Ala Gly Ile Phe

450

455

460

<210> 185

<211> 2111

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (4)..(729)

<400> 185

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Met Leu Lys Leu Tyr Arg Lys Arg His Pro Asp Ile Asn Ala Ser

1

5

10

15

gcc tac agt gcc tac gcc tgc ctg gcc att gtc atc ttc ttc tct gtg 96

Ala Tyr Ser Ala Tyr Ala Cys Leu Ala Ile Val Ile Phe Phe Ser Val

20

25

30

ctg ggc gtg gtc ttt ggc aaa ggg aac acg gcg ttc tgg atc gtc ttc 144

Leu Gly Val Val Phe Gly Lys Gly Asn Thr Ala Phe Trp Ile Val Phe

35

40

45

tcc atc att cac atc atc gcc acc ctg ctc ctc agc acg cag ctc tat 192

Ser Ile Ile His Ile Ile Ala Thr Leu Leu Leu Ser Thr Gln Leu Tyr

50

55

60

tac atg ggc cgg tgg aaa ctg gac tcg ggg atc ttc cgc cgc atc ctc 240

Tyr Met Gly Arg Trp Lys Leu Asp Ser Gly Ile Phe Arg Arg Ile Leu

65

70

75

cac gtg ctc tac aca gac tgc atc cgg cag tgc agc ggg ccg ctc tac 288

His Val Leu Tyr Thr Asp Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr

80

85

90

95

gtg gac cgc atg gtg ctg ctg gtc atg ggc aac gtc atc aac tgg tcg 336

Val Asp Arg Met Val Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser

100

105

110

ctg gct gcc tat ggg ctt atc atg cgc ccc aat gat ttc gct tcc tac 384

Leu Ala Ala Tyr Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr

115

120

125

ttg ttg gcc att ggc atc tgc aac ctg ctc ctt tac ttc gcc ttc tac 432

Leu Leu Ala Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr

130

135

140

atc atc atg aag ctc cgg agt ggg gag agg atc aag ctc atc ccc ctg 480

Ile Ile Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu

145

150

155

ctc tgc atc gtt tgc acc tcc gtg gtc tgg ggc ttc gcg ctc ttc ttc 528

Leu Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe

160 165 170 175

ttc ttc cag gga ctc agc acc tgg cag aaa acc cct gca gag tcg agg 576

Phe Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser Arg

180 185 190

gag cac aac cgg gac tgc atc ctc ctc gac ttc ttt aac gac cac gac 624

Glu His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asn Asp His Asp

195 200 205

atc tgg cac ttc ctc tcc tcc atc gcc atg ttc ggg tcc ttc ctg gtg 672

Ile Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser Phe Leu Val

210 215 220

ttg ctg aca ctg gat gac gac ctg gat act gtg cag cgg gac aag atc 720

Leu Leu Thr Leu Asp Asp Asp Leu Asp Thr Val Gln Arg Asp Lys Ile

225 230 235

tat gtc ttc tagcaggagc tgggcccttc gcttcacctc aaggggccct 769

Tyr Val Phe

240

gagctccttt gtgtcataga ccggtcactc tgtcgtgctg tggggatgag tcccagcacc 829

gctgcccagc actggatggc agcaggacag ccaggtctag cttaggcttg gcctgggaca 889

gccatggggt ggcatggaac ctgcggtg ccctctgccg aggagcaggc ctgctcccct 949

ggaaccccc gatgttgcc aaattgtgc tttcttctca gtgttggggc ctccatggg 1009

ccctgtcct ttggtctcc attgtccct ttgcaaggagg aaggatggaa gggacaccct 1069

ccccattca tgccttgcatt ttgcccgtc ctctcccca caatgcccc gctgggacc 1129

taaggcctct tttctctcc atactccac tccagggcct agtctggggc ctgaatctct 1189

gtcctgtatc agggccccag ttctcttgg gctgtccctg gctgccatca ctgccattc 1249

cagtcagcca ggatggatgg gggtatgaga tttgggggt tggccagctg gtgccagact 1309

tttggtgcta aggcctgcaa ggggcctggg gcagtgcgta ttctcttccc tctgacctgt 1369

gctcagggtt ggctctttag caatgcgtc agcccaattt gagaaccgcc ttctgattca 1429

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aaggagggat gatacagagt tcagccggt ctgcctccac agctgtgggc accccagtgc 1669

ctacctaga aaagggttc aggaaggat gtgctgtttc cctctacgtg cccagtccta 1729

gcctcgctct aggacccagg gctggcttct aagtttccgt ccagtcttca ggcaagtct 1789

gtgttagtca tgcacacaca tacctatgaa accttggagt ttacaaagaa ttgccccagc 1849

tctgggcacc ctggccaccc tggtccttgg atcccccttcg tcccacctgg tccaccccag 1909

atgctgagga tgggggagct caggcggggc ctctgctttg gggatgggaa tgtgtttttc 1969

tcccaaactt gtttttatag ctctgcttga agggctggga gatgaggtgg gtctggatct 2029

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caataaaca ccagactcag tt 2111

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<211> 242

<212> PRT

<213> Homo sapiens

<400> 186

Met Leu Lys Leu Tyr Arg Lys Arg His Pro Asp Ile Asn Ala Ser Ala

1 5 10 15

Tyr Ser Ala Tyr Ala Cys Leu Ala Ile Val Ile Phe Phe Ser Val Leu

20 25 30

Gly Val Val Phe Gly Lys Gly Asn Thr Ala Phe Trp Ile Val Phe Ser

35 40 45

Ile Ile His Ile Ile Ala Thr Leu Leu Leu Ser Thr Gln Leu Tyr Tyr
50 55 60

Met Gly Arg Trp Lys Leu Asp Ser Gly Ile Phe Arg Arg Ile Leu His
65 70 75 80

Val Leu Tyr Thr Asp Cys Ile Arg Gln Cys Ser Gly Pro Leu Tyr Val
85 90 95

Asp Arg Met Val Leu Leu Val Met Gly Asn Val Ile Asn Trp Ser Leu
100 105 110

Ala Ala Tyr Gly Leu Ile Met Arg Pro Asn Asp Phe Ala Ser Tyr Leu
115 120 125

Leu Ala Ile Gly Ile Cys Asn Leu Leu Leu Tyr Phe Ala Phe Tyr Ile
130 135 140

Ile Met Lys Leu Arg Ser Gly Glu Arg Ile Lys Leu Ile Pro Leu Leu
145 150 155 160

Cys Ile Val Cys Thr Ser Val Val Trp Gly Phe Ala Leu Phe Phe Phe
165 170 175

Phe Gln Gly Leu Ser Thr Trp Gln Lys Thr Pro Ala Glu Ser Arg Glu
180 185 190

His Asn Arg Asp Cys Ile Leu Leu Asp Phe Phe Asn Asp His Asp Ile
195 200 205

Trp His Phe Leu Ser Ser Ile Ala Met Phe Gly Ser Phe Leu Val Leu

210

215

220

Leu Thr Leu Asp Asp Asp Leu Asp Thr Val Gln Arg Asp Lys Ile Tyr

225

230

235

240

Val Phe

<210> 187

<211> 874

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (335)..(643)

<400> 187

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gatgagggaa tcctgtcacc atcaataatc acttgtggag cgccagctct gcccaaggcg 180

ccacctgggc ggacagccag gaactctcca tggccaggct gcctgtgtgc atgttcctg 240

tctggtgccc ctttgcccgc ctccctgcaaa cctcacaggg tccccacaca acagtgcctt 300

ccagaagcag cccctcggag gcagaggaag gaaa atg ggg atg gct ggg gct ctc 355

Met Gly Met Ala Gly Ala Leu

1

5

tcc atc ctc ctt ttc tcc ttg cct tgc cat ggc tgg cct tcc cct cca 403

Ser Ile Leu Leu Phe Ser Leu Pro Ser His Gly Trp Pro Ser Pro Pro

10

15

20

aaa cct cca ttc ccc tgc tgc cag ccc ctt tgc cat agc ctg att ttg 451

Lys Pro Pro Phe Pro Cys Cys Gln Pro Leu Cys His Ser Leu Ile Leu

25

30

35

ggg agg agg aag ggg cga ttt gag gga gaa ggg gag aaa gct tat ggc 499

Gly Arg Arg Lys Gly Arg Phe Glu Gly Glu Gly Glu Lys Ala Tyr Gly

40

45

50

55

tgg gtc tgg ttt ctt ccc ttc cca gag ggt ctt act gtt cca ggg tgg 547

Trp Val Trp Phe Leu Pro Phe Pro Glu Gly Leu Thr Val Pro Gly Trp

60

65

70

ccc cag ggc agg cag ggg cca cac tat gcc tgc gcc ctg gta aag gtg 595

Pro Gln Gly Arg Gln Gly Pro His Tyr Ala Cys Ala Leu Val Lys Val

75

80

85

acc cct gcc att tac cag cag ccc tgg cat gtt cct gcc cca cag gaa 643

Thr Pro Ala Ile Tyr Gln Gln Pro Trp His Val Pro Ala Pro Gln Glu

90

95

100

tagaatggag ggagctccag aaactttcca tcccaaaggc agtctccgtg gttgaagcag 703

actggatttt tgttctgccc ctgaccctt gtccctcttt gagggagggg agctatgcta 763

ggactccaac ctgagggact cgggtggcct gcgctagctt cttttgatac tgaaaacttt 823

taaggtggga ggggtggcaag ggatgtgctt aataaatcaa ttccaagcct c 874

<210> 188

<211> 103

<212> PRT

<213> Homo sapiens

<400> 188

Met Gly Met Ala Gly Ala Leu Ser Ile Leu Leu Phe Ser Leu Pro Ser

1 5 10 15

His Gly Trp Pro Ser Pro Pro Lys Pro Pro Phe Pro Cys Cys Gln Pro

20 25 30

Leu Cys His Ser Leu Ile Leu Gly Arg Arg Lys Gly Arg Phe Glu Gly

35 40 45

Glu Gly Glu Lys Ala Tyr Gly Trp Val Trp Phe Leu Pro Phe Pro Glu

50 55 60

Gly Leu Thr Val Pro Gly Trp Pro Gln Gly Arg Gln Gly Pro His Tyr

65

70

75

80

Ala Cys Ala Leu Val Lys Val Thr Pro Ala Ile Tyr Gln Gln Pro Trp

85

90

95

His Val Pro Ala Pro Gln Glu

100

<210> 189

<211> 2533

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (44)..(850)

<400> 189

atactcctaa gctcctcccc cggcggcgag ccagggagaa agg atg gcc ggc ctg 55

Met Ala Gly Leu

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gcg gcg cgg ttg gtc ctg cta gct ggg gca gcg gcg ctg gcg agc ggc 103

Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala Leu Ala Ser Gly

5

10

15

20

tcc cag ggc gac cgt gag ccg gtg tac cgc gac tgc gta ctg cag tgc 151

Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys Val Leu Gln Cys

25

30

35

gaa gag cag aat tgc tct ggg ggc gct ctg aat cac ttc cgc tcc cgc 199

Glu Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His Phe Arg Ser Arg

40

45

50

cag cca atc tac atg agt cta gca ggc tgg acc tgt cgg gac gac tgt 247

Gln Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys Arg Asp Asp Cys

55

60

65

aag tat gag tgt atg tgg gtc acc gtt ggg ctc tac ctc cag gaa ggt 295

Lys Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr Leu Gln Glu Gly

70

75

80

cac aaa gtg cct cag ttc cat ggc aag gtg tcc ctc aat gca tgg ttc 343

His Lys Val Pro Gln Phe His Gly Lys Val Ser Leu Asn Ala Trp Phe

85

90

95

100

tgg ccc aca gtt ttc cac acc agg gac act gac ctc aca gag aaa atg 391

Trp Pro Thr Val Phe His Thr Arg Asp Thr Asp Leu Thr Glu Lys Met

105

110

115

gac tac ttc tgt gcc tcc act gtc atc cta cac tca atc tac ctg tgc 439

Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser Ile Tyr Leu Cys

120

125

130

tgc gtc agg acc gtg ggg ctg cag cac cca gct gtg gtc agt gcc ttc 487

Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val Val Ser Ala Phe

135

140

145

cgg gct ctc ctg ctg ctc atg ctg acc gtg cac gtc tcc tac ctg agc 535

Arg Ala Leu Leu Leu Leu Met Leu Thr Val His Val Ser Tyr Leu Ser

150

155

160

ctc atc cgc ttc gac tat ggc tac aac ctg gtg gcc aac gtg gct att 583

Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu Val Ala Asn Val Ala Ile

165

170

175

180

ggc ctg gtc aac gtg gtg tgg tgg ctg gcc tgg tgc ctg tgg aac cag 631

Gly Leu Val Asn Val Val Trp Trp Leu Ala Trp Cys Leu Trp Asn Gln

185

190

195

cgg cgg ctg cct cac gtg cgc aag cgc gtg gtg gtg gtc ttg ctg ctg 679

Arg Arg Leu Pro His Val Arg Lys Arg Val Val Val Val Leu Leu Leu

200

205

210

cag ggg ctg tcc ctg ctc gag ctg ctt gac ttc cca ccg ctc ttc tgg 727

Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp Phe Pro Pro Leu Phe Trp

215

220

225

gtc ctg gat gcc cat gcc atc tgg cac atc agc acc atc cct gtc cac 775

Val Leu Asp Ala His Ala Ile Trp His Ile Ser Thr Ile Pro Val His

230

235

240

gtc ctc ttt ttc agc ttt ctg gaa gat gac agc ctg tac ctg ctg aag 823

Val Leu Phe Phe Ser Phe Leu Glu Asp Asp Ser Leu Tyr Leu Leu Lys

245

250

255

260

gaa tca gag gac aag ttc aag ctg gac tgaagacctt ggagcgagtc 870
Glu Ser Glu Asp Lys Phe Lys Leu Asp

265

tgccccagtg gggatcctgc ccccgccctg ctggcctccc ttctcccctc aacccttgag 930

atgattttct cttttcaact tcttgaactt ggacatgaag gatgtgggcc cagaatcatg 990

tggccagccc accccctggtt ggccctcacc agccttggag tctgttctag ggaaggcctc 1050

ccagcatctg ggactcgaga gtgggcagcc cctctacctc ctggagctga actgggggtg 1110

aactgagtgt gctcttagct ctaccgggag gacagctgcc tgtttcctcc ccatcagcct 1170

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cgctgtctgg tgggcatgtg agatgagtga ctgccggtga atgtgtccac agttgagagg 1770

ttggagcagg atgagggaat cctgtcacca tcaataatca cttgtggagc gccagctctg 1830

cccaaggcgc cacctgggcg gacagccagg agctctccat ggccaggctg cctgtgtgca 1890

tgttccctgt ctggtgcccc ttgcccgc tctgcaaac ctcacagggt cccacacaaa 1950

cagtgccttc cagaagcagc ccctcgagg cagaggaagg aaaatgggga tggctggggc 2010

tctctccatc ctcttttct ccttgccttc gcatggctgg ccttcccttc caaaacctcc 2070

attccctgc tgccagcccc ttgccatag cctgattttg gggaggagga aggggcgatt 2130

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tactgctcca ggggtggcccc agggcaggca ggggccacac tatgcctgcg ccctggtaaa 2250

ggtgaccct gccacttacc agcagccctg gcatgttct gcccacagg aatagaatgg 2310

agggagctcc agaaactttc catcccaaag gcagtctccg tggttgaagc agactggatt 2370

tttgcctgc ccctgacccc ttgtccctct ttgaggagg ggagctatgc taggactcca 2430

acctcaggga ctcgggtggc ctgcgctagc ttctttgat actgaaaact tttaagggtg 2490

gaggggtggca agggatgtgc ttaataaatc aattccaagc etc

2533

<210> 190

<211> 269

<212> PRT

<213> Homo sapiens

<400> 190

Met Ala Gly Leu Ala Ala Arg Leu Val Leu Leu Ala Gly Ala Ala Ala

1 5 10 15

Leu Ala Ser Gly Ser Gln Gly Asp Arg Glu Pro Val Tyr Arg Asp Cys

20 25 30

Val Leu Gln Cys Glu Glu Gln Asn Cys Ser Gly Gly Ala Leu Asn His

35 40 45

Phe Arg Ser Arg Gln Pro Ile Tyr Met Ser Leu Ala Gly Trp Thr Cys

50 55 60

Arg Asp Asp Cys Lys Tyr Glu Cys Met Trp Val Thr Val Gly Leu Tyr

65 70 75 80

Leu Gln Glu Gly His Lys Val Pro Gln Phe His Gly Lys Val Ser Leu

85 90 95

Asn Ala Trp Phe Trp Pro Thr Val Phe His Thr Arg Asp Thr Asp Leu

100 105 110

Thr Glu Lys Met Asp Tyr Phe Cys Ala Ser Thr Val Ile Leu His Ser
115 120 125

Ile Tyr Leu Cys Cys Val Arg Thr Val Gly Leu Gln His Pro Ala Val
130 135 140

Val Ser Ala Phe Arg Ala Leu Leu Leu Leu Met Leu Thr Val His Val
145 150 155 160

Ser Tyr Leu Ser Leu Ile Arg Phe Asp Tyr Gly Tyr Asn Leu Val Ala
165 170 175

Asn Val Ala Ile Gly Leu Val Asn Val Val Trp Trp Leu Ala Trp Cys
180 185 190

Leu Trp Asn Gln Arg Arg Leu Pro His Val Arg Lys Arg Val Val Val
195 200 205

Val Leu Leu Leu Gln Gly Leu Ser Leu Leu Glu Leu Leu Asp Phe Pro
210 215 220

Pro Leu Phe Trp Val Leu Asp Ala His Ala Ile Trp His Ile Ser Thr
225 230 235 240

Ile Pro Val His Val Leu Phe Phe Ser Phe Leu Glu Asp Asp Ser Leu
245 250 255

Tyr Leu Leu Lys Glu Ser Glu Asp Lys Phe Lys Leu Asp

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accaag atg gtt tgc ggg ggc ttc gcg tgt tcc aag aac tgc ctg tgc 228

Met Val Cys Gly Gly Phe Ala Cys Ser Lys Asn Cys Leu Cys

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Ala Leu Asn Leu Leu Tyr Thr Leu Val Ser Leu Leu Leu Ile Gly Ile

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gct gcg tgg ggc att ggc ttc ggg ctg att tcc agt ctc cga gtg gtc 324

Ala Ala Trp Gly Ile Gly Phe Gly Leu Ile Ser Ser Leu Arg Val Val

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Gly Val Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala Leu Val

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Gly Leu Ile Gly Ala Val Lys His His Gln Val Leu Leu Phe Phe Tyr

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atg att att ctg tta ctt gta ttt att gtt cag tct tct gta tct tgc 468

Met Ile Ile Leu Leu Leu Val Phe Ile Val Gln Ser Ser Val Ser Cys

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Ala Cys Leu Ala Leu Asn Gln Glu Gln Gln Gly Gln Leu Leu Glu Val

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Gly Trp Asn Asn Thr Ala Ser Ala Arg Asn Asp Ile Gln Arg Asn Leu

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aac tgc tgt ggg ttc cga agt gtt aac cca aat gac acc tgt ctg gct 612

Asn Cys Cys Gly Phe Arg Ser Val Asn Pro Asn Asp Thr Cys Leu Ala

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agc tgt gtt aaa agt gac cac tcg tgc tcg cca tgt gct cca atc ata 660

Ser Cys Val Lys Ser Asp His Ser Cys Ser Pro Cys Ala Pro Ile Ile

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gga gaa tat gct gga gag gtt ttg aga ttt gtt ggt ggc att ggc ctg 708

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ttc ttc agt ttt aca gag atc ctg ggt gtt tgg ctg acc tac aga tac 756

Phe Phe Ser Phe Thr Glu Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr

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agg aac cag aaa gac ccc cgc gcg aat cct agt gca ttc ctt 798

Arg Asn Gln Lys Asp Pro Arg Ala Asn Pro Ser Ala Phe Leu

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25

30

Trp Gly Ile Gly Phe Gly Leu Ile Ser Ser Leu Arg Val Val Gly Val

35

40

45

Val Ile Ala Val Gly Ile Phe Leu Phe Leu Ile Ala Leu Val Gly Leu

50

55

60

Ile Gly Ala Val Lys His His Gln Val Leu Leu Phe Phe Tyr Met Ile

65

70

75

80

Ile Leu Leu Leu Val Phe Ile Val Gln Ser Ser Val Ser Cys Ala Cys

85

90

95

Leu Ala Leu Asn Gln Glu Gln Gln Gly Gln Leu Leu Glu Val Gly Trp

100

105

110

Asn Asn Thr Ala Ser Ala Arg Asn Asp Ile Gln Arg Asn Leu Asn Cys

115

120

125

Cys Gly Phe Arg Ser Val Asn Pro Asn Asp Thr Cys Leu Ala Ser Cys

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135

140

Val Lys Ser Asp His Ser Cys Ser Pro Cys Ala Pro Ile Ile Gly Glu

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Tyr Ala Gly Glu Val Leu Arg Phe Val Gly Gly Ile Gly Leu Phe Phe

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Ser Phe Thr Glu Ile Leu Gly Val Trp Leu Thr Tyr Arg Tyr Arg Asn
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Gln Lys Asp Pro Arg Ala Asn Pro Ser Ala Phe Leu
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Met Pro Trp Pro Leu Leu Leu Leu Leu

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gcc gtg agt ggg gcc cag aca acc cgg cca tgc ttc ccc ggg tgc caa 159

Ala Val Ser Gly Ala Gln Thr Thr Arg Pro Cys Phe Pro Gly Cys Gln

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tgc gag gtg gag acc ttc ggc ctt ttc gac agc ttc agc ctg act cgg 207

Cys Glu Val Glu Thr Phe Gly Leu Phe Asp Ser Phe Ser Leu Thr Arg

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gtg gat tgt agc ggc ctg ggc ccc cac atc atg ccg gtg ccc atc cct			255
Val Asp Cys Ser Gly Leu Gly Pro His Ile Met Pro Val Pro Ile Pro			
45	50	55	

ctg gac aca gcc cac ttg gac ctg tcc tcc aac cgg ctg gag atg gtg			303
Leu Asp Thr Ala His Leu Asp Leu Ser Ser Asn Arg Leu Glu Met Val			
60	65	70	

aat gag tcg gtg ttg gcg ggg ccg ggc tac acg acg ttg gct ggc ctg			351
Asn Glu Ser Val Leu Ala Gly Pro Gly Tyr Thr Thr Leu Ala Gly Leu			
75	80	85	

gat ctc agc cac aac ctg ctc acc agc atc tca ccc act gcc ttc tcc			399
Asp Leu Ser His Asn Leu Leu Thr Ser Ile Ser Pro Thr Ala Phe Ser			
90	95	100	105

cgc ctt cgc tac ctg gag tcg ctt gac ctc agc cac aat ggc ctg aca			447
Arg Leu Arg Tyr Leu Glu Ser Leu Asp Leu Ser His Asn Gly Leu Thr			
110	115	120	

gcc ctg cca gcc gag agc ttc acc agc tca ccc ctg agc gac gtg aac			495
Ala Leu Pro Ala Glu Ser Phe Thr Ser Ser Pro Leu Ser Asp Val Asn			
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ctt agc cac aac cag ctc cgg gag gtc tca gtg tct gcc ttc acg acg			543
Leu Ser His Asn Gln Leu Arg Glu Val Ser Val Ser Ala Phe Thr Thr			
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His Ser Gln Gly Arg Ala Leu His Val Asp Leu Ser His Asn Leu Ile

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cac cgc ctc gtg ccc cac ccc acg agg gcc ggc ctg cct gcg ccc acc 639

His Arg Leu Val Pro His Pro Thr Arg Ala Gly Leu Pro Ala Pro Thr

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att cag agc ctg aac ctg gcc tgg aac cgg ctc cat gcc gtg ccc aac 687

Ile Gln Ser Leu Asn Leu Ala Trp Asn Arg Leu His Ala Val Pro Asn

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Leu Arg Asp Leu Pro Leu Arg Tyr Leu Ser Leu Asp Gly Asn Pro Leu

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gct gtc att ggt ccg ggt gcc ttc gcg ggg ctg gga ggc ctt aca cac 783

Ala Val Ile Gly Pro Gly Ala Phe Ala Gly Leu Gly Gly Leu Thr His

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225

230

ctg tct ctg gcc agc ctg cag agg ctc cct gag ctg gcg ccc agt ggc 831

Leu Ser Leu Ala Ser Leu Gln Arg Leu Pro Glu Leu Ala Pro Ser Gly

235

240

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ttc cgt gag cta ccg ggc ctg cag gtc ctg gac ctg tcg ggc aac ccc 879

Phe Arg Glu Leu Pro Gly Leu Gln Val Leu Asp Leu Ser Gly Asn Pro

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aag ctt aac tgg gca gga gct gag gtg ttt tca ggc ctg agc tcc ctg 927

Lys Leu Asn Trp Ala Gly Ala Glu Val Phe Ser Gly Leu Ser Ser Leu

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cag gag ctg gac ctt tcg ggc acc aac ctg gtg ccc ctg cct gag gcg 975

Gln Glu Leu Asp Leu Ser Gly Thr Asn Leu Val Pro Leu Pro Glu Ala

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ctg ctc ctc cac ctc ccg gca ctg cag agc gtc agc gtg ggc cag gat 1023

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gtg cgg tgc cgg cgc ctg gtg cgg gag ggc acc tac ccc cgg agg cct 1071

Val Arg Cys Arg Arg Leu Val Arg Glu Gly Thr Tyr Pro Arg Arg Pro

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ggc tcc agc ccc aag gtg gcc ctg cac tgc gta gac acc cgg gaa tct 1119

Gly Ser Ser Pro Lys Val Ala Leu His Cys Val Asp Thr Arg Glu Ser

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gct gcc agg ggc ccc acc atc ttg tgacaaatgg tgtggcccag ggccacataa 1173

Ala Ala Arg Gly Pro Thr Ile Leu

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Pro His Ile Met Pro Val Pro Ile Pro Leu Asp Thr Ala His Leu Asp

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55

60

Leu Ser Ser Asn Arg Leu Glu Met Val Asn Glu Ser Val Leu Ala Gly

65

70

75

80

Pro Gly Tyr Thr Thr Leu Ala Gly Leu Asp Leu Ser His Asn Leu Leu

85

90

95

Thr Ser Ile Ser Pro Thr Ala Phe Ser Arg Leu Arg Tyr Leu Glu Ser

100

105

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Leu Asp Leu Ser His Asn Gly Leu Thr Ala Leu Pro Ala Glu Ser Phe

115

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Thr Ser Ser Pro Leu Ser Asp Val Asn Leu Ser His Asn Gln Leu Arg

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Glu Val Ser Val Ser Ala Phe Thr Thr His Ser Gln Gly Arg Ala Leu

145

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His Val Asp Leu Ser His Asn Leu Ile His Arg Leu Val Pro His Pro

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170

175

Thr Arg Ala Gly Leu Pro Ala Pro Thr Ile Gln Ser Leu Asn Leu Ala

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190

Trp Asn Arg Leu His Ala Val Pro Asn Leu Arg Asp Leu Pro Leu Arg
195 200 205

Tyr Leu Ser Leu Asp Gly Asn Pro Leu Ala Val Ile Gly Pro Gly Ala
210 215 220

Phe Ala Gly Leu Gly Gly Leu Thr His Leu Ser Leu Ala Ser Leu Gln
225 230 235 240

Arg Leu Pro Glu Leu Ala Pro Ser Gly Phe Arg Glu Leu Pro Gly Leu
245 250 255

Gln Val Leu Asp Leu Ser Gly Asn Pro Lys Leu Asn Trp Ala Gly Ala
260 265 270

Glu Val Phe Ser Gly Leu Ser Ser Leu Gln Glu Leu Asp Leu Ser Gly
275 280 285

Thr Asn Leu Val Pro Leu Pro Glu Ala Leu Leu Leu His Leu Pro Ala
290 295 300

Leu Gln Ser Val Ser Val Gly Gln Asp Val Arg Cys Arg Arg Leu Val
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Leu

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His Gly Leu Pro Leu Leu Pro Leu Leu Ser Leu Leu Val Gly Ala Trp
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ctc aag cta gga aat gga cag gct act agc atg gtc caa ctg cag ggt 152
Leu Lys Leu Gly Asn Gly Gln Ala Thr Ser Met Val Gln Leu Gln Gly
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Gly Arg Phe Leu Met Gly Thr Asn Ser Pro Asp Ser Arg Asp Gly Glu

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ggg cct gtg cgg gag gcg aca gtg aaa ccc ttt gcc atc gac ata ttt 248

Gly Pro Val Arg Glu Ala Thr Val Lys Pro Phe Ala Ile Asp Ile Phe

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cct gtc acc aac aaa gat ttc agg gat ttt gtc agg gag aaa aag tat 296

Pro Val Thr Asn Lys Asp Phe Arg Asp Phe Val Arg Glu Lys Lys Tyr

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cgg aca gaa gct gag atg ttt gga tgg agc ttt gtc ttt gag gac ttt 344

Arg Thr Glu Ala Glu Met Phe Gly Trp Ser Phe Val Phe Glu Asp Phe

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Val Ser Asp Glu Leu Arg Asn Lys Ala Thr Gln Pro Met Lys Ser Val

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cct ggc tct ggc atc cga gag aga ctg gag cac cca gtg tta cac gtg 488

Pro Gly Ser Gly Ile Arg Glu Arg Leu Glu His Pro Val Leu His Val

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Ser Trp Asn Asp Ala Arg Ala Tyr Cys Ala Trp Arg Gly Lys Arg Leu

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tgg cag gga aag ttc ccc aag gga gac aaa gct gag gat ggc ttc cat 680			
Trp Gln Gly Lys Phe Pro Lys Gly Asp Lys Ala Glu Asp Gly Phe His			
	200	205	210
gga gtc tcc cca gtg aat gct ttc ccc gcc cag aac aac tac ggg ctc 728			
Gly Val Ser Pro Val Asn Ala Phe Pro Ala Gln Asn Asn Tyr Gly Leu			
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tat gac ctc ctg ggg aac gtg tgg gag tgg aca gca tca ccg tac cag 776			
Tyr Asp Leu Leu Gly Asn Val Trp Glu Trp Thr Ala Ser Pro Tyr Gln			
	230	235	240
gct gct gag cag gac atg cgc gtc ctc cgg ggg gca tcc tgg atc gac 824			
Ala Ala Glu Gln Asp Met Arg Val Leu Arg Gly Ala Ser Trp Ile Asp			
	245	250	255
aca gct gat ggc tct gcc aat cac cgg gcc cgg gtc acc acc agg atg 872			
Thr Ala Asp Gly Ser Ala Asn His Arg Ala Arg Val Thr Thr Arg Met			
	260	265	270 275

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Gly Asn Thr Pro Asp Ser Ala Ser Asp Asn Leu Gly Phe Arg Cys Ala

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gca gac gca ggc cgg ccg cca ggg gag ctg taagcagccg ggtggtgaca 970

Ala Asp Ala Gly Arg Pro Pro Gly Glu Leu

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30

Leu Gln Gly Gly Arg Phe Leu Met Gly Thr Asn Ser Pro Asp Ser Arg
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Asp Gly Glu Gly Pro Val Arg Glu Ala Thr Val Lys Pro Phe Ala Ile
50 55 60

Asp Ile Phe Pro Val Thr Asn Lys Asp Phe Arg Asp Phe Val Arg Glu
65 70 75 80

Lys Lys Tyr Arg Thr Glu Ala Glu Met Phe Gly Trp Ser Phe Val Phe
85 90 95

Glu Asp Phe Val Ser Asp Glu Leu Arg Asn Lys Ala Thr Gln Pro Met
100 105 110

Lys Ser Val Leu Trp Trp Leu Pro Val Glu Lys Ala Phe Trp Arg Gln
115 120 125

Pro Ala Gly Pro Gly Ser Gly Ile Arg Glu Arg Leu Glu His Pro Val
130 135 140

Leu His Val Ser Trp Asn Asp Ala Arg Ala Tyr Cys Ala Trp Arg Gly
145 150 155 160

Lys Arg Leu Pro Thr Glu Glu Glu Trp Glu Phe Ala Ala Arg Gly Gly
165 170 175

Leu Lys Gly Gln Val Tyr Pro Trp Gly Asn Trp Phe Gln Pro Asn Arg
180 185 190

Thr Asn Leu Trp Gln Gly Lys Phe Pro Lys Gly Asp Lys Ala Glu Asp

195

200

205

Gly Phe His Gly Val Ser Pro Val Asn Ala Phe Pro Ala Gln Asn Asn

210

215

220

Tyr Gly Leu Tyr Asp Leu Leu Gly Asn Val Trp Glu Trp Thr Ala Ser

225

230

235

240

Pro Tyr Gln Ala Ala Glu Gln Asp Met Arg Val Leu Arg Gly Ala Ser

245

250

255

Trp Ile Asp Thr Ala Asp Gly Ser Ala Asn His Arg Ala Arg Val Thr

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Arg Cys Ala Ala Asp Ala Gly Arg Pro Pro Gly Glu Leu

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<211> 2012

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (305)..(1549)

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tgcggagggg cgtgtgtgcc ggcgcgcgcg ccgtggggtg caaaccgccga gcgtctacgc 300

tgcc atg agg ggc gcg aac gcc tgg gcg cca ctc tgc ctg ctg ctg gct 349

Met Arg Gly Ala Asn Ala Trp Ala Pro Leu Cys Leu Leu Leu Ala

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Ala Ala Thr Gln Leu Ser Arg Gln Gln Ser Pro Glu Arg Pro Val Phe

20 25 30

aca tgt ggt ggc att ctt act gga gag tct gga ttt att ggc agt gaa 445

Thr Cys Gly Gly Ile Leu Thr Gly Glu Ser Gly Phe Ile Gly Ser Glu

35 40 45

ggt ttt cct gga gtg tac cct cca aat agc aaa tgt act tgg aaa atc 493

Gly Phe Pro Gly Val Tyr Pro Pro Asn Ser Lys Cys Thr Trp Lys Ile

50 55 60

aca gtt ccc gaa gga aaa gta gtc gtt ctc aat ttc cga ttc ata gac 541
Thr Val Pro Glu Gly Lys Val Val Val Leu Asn Phe Arg Phe Ile Asp

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ctc gag agt gac aac ctg tgc cgc tat gac ttt gtg gat gtg tac aat 589

Leu Glu Ser Asp Asn Leu Cys Arg Tyr Asp Phe Val Asp Val Tyr Asn

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ggc cat gcc aat ggc cag cgc att ggc cgc ttc tgt ggc act ttc cgg 637

Gly His Ala Asn Gly Gln Arg Ile Gly Arg Phe Cys Gly Thr Phe Arg

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105

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cct gga gcc ctt gtg tcc agt ggc aac aag atg atg gtg cag atg att 685

Pro Gly Ala Leu Val Ser Ser Gly Asn Lys Met Met Val Gln Met Ile

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tct gat gcc aac aca gct ggc aat ggc ttc atg gcc atg ttc tcc gct 733

Ser Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala

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gct gaa cca aac gaa aga ggg gat cag tat tgt gga gga ctc ctt gac 781

Ala Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp

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aga cct tcc ggc tct ttt aaa acc ccc aac tgg cca gac cgg gat tac 829

Arg Pro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr

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cct gca gga gtc act tgt gtg tgg cac att gta gcc cca aag aat cag 877
 Pro Ala Gly Val Thr Cys Val Trp His Ile Val Ala Pro Lys Asn Gln
 180 185 190

ctt ata gaa tta aag ttt gag aag ttt gat gtg gag cga gat aac tac 925
 Leu Ile Glu Leu Lys Phe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr
 195 200 205

tgc cga tat gat tat gtg gct gtg ttt aat ggc ggg gaa gtc aac gat 973
 Cys Arg Tyr Asp Tyr Val Ala Val Phe Asn Gly Gly Glu Val Asn Asp
 210 215 220

gct aga aga att gga aag tat tgt ggt gat agt cca cct gcg cca att 1021
 Ala Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile
 225 230 235

gtg tct gag aga aat gaa ctt ctt att cag ttt tta tca gac tta agt 1069
 Val Ser Glu Arg Asn Glu Leu Leu Ile Gln Phe Leu Ser Asp Leu Ser
 240 245 250 255

tta act gca gat ggg ttt att ggt cac tac ata ttc agg cca aaa aaa 1117
 Leu Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys
 260 265 270

ctg cct aca act aca gaa cag cct gtc acc acc aca ttc cct gta acc 1165
 Leu Pro Thr Thr Thr Glu Gln Pro Val Thr Thr Thr Phe Pro Val Thr
 275 280 285

acg ggt tta aaa ccc acc gtg gcc ttg tgt caa caa aag tgt aga cgg 1213

Thr Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg

290

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acg ggg act ctg gag ggc aat tat tgt tca agt gac ttt gta tta gcc 1261

Thr Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala

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ggc act gtt atc aca acc atc act cgc gat ggg agt ttg cac gcc aca 1309

Gly Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr

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gtc tcg atc atc aac atc tac aaa gag gga aat ttg gcg att cag cag 1357

Val Ser Ile Ile Asn Ile Tyr Lys Glu Gly Asn Leu Ala Ile Gln Gln

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350

gcg ggc aag aac atg agt gcc agg ctg act gtc gtc tgc aag cag tgc 1405

Ala Gly Lys Asn Met Ser Ala Arg Leu Thr Val Val Cys Lys Gln Cys

355

360

365

cct ccc ctc aga aga ggt cta aat tac att att atg ggc caa gta ggt 1453

Pro Pro Leu Arg Arg Gly Leu Asn Tyr Ile Ile Met Gly Gln Val Gly

370

375

380

gaa gat ggg cga ggc aaa atc atg cca aac agc ttt atc atg atg ttc 1501

Glu Asp Gly Arg Gly Lys Ile Met Pro Asn Ser Phe Ile Met Met Phe

385

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aag acc aag aat cag aag ctc ctg gat gcc tta aaa aat aag caa tgt 1549

Lys Thr Lys Asn Gln Lys Leu Leu Asp Ala Leu Lys Asn Lys Gln Cys

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405

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taacagtgaa ctgtgtccat ttaagctgta ttctgccatt gcctttgaaa gatctatgtt 1609

ctctcagtag aaaaaaaaaat acttataaaa ttacatattc tgaaagagga ttccgaaaga 1669

tgggactggt tgactcttca catgatggag gtatgaggcc tccgagatag ctgaggggaag 1729

ttctttgcct gctgtcagag gagcagctat ctgattggaa acctgccgac ttagtgcggt 1789

gataggaagc taaaagtgtc aagcgttgac agcttgggaag cgtttattta tacatctctg 1849

taaaaggata ttttagaatt gagttgtgtg aagatgtcaa aaaaagattt tagaagtgca 1909

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25

30

Cys Gly Gly Ile Leu Thr Gly Glu Ser Gly Phe Ile Gly Ser Glu Gly

35

40

45

Phe Pro Gly Val Tyr Pro Pro Asn Ser Lys Cys Thr Trp Lys Ile Thr

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55

60

Val Pro Glu Gly Lys Val Val Val Leu Asn Phe Arg Phe Ile Asp Leu

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Glu Ser Asp Asn Leu Cys Arg Tyr Asp Phe Val Asp Val Tyr Asn Gly

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His Ala Asn Gly Gln Arg Ile Gly Arg Phe Cys Gly Thr Phe Arg Pro

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Gly Ala Leu Val Ser Ser Gly Asn Lys Met Met Val Gln Met Ile Ser

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Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala Ala

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Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp Arg

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Pro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr Pro

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175

Ala Gly Val Thr Cys Val Trp His Ile Val Ala Pro Lys Asn Gln Leu
180 185 190

Ile Glu Leu Lys Phe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr Cys
195 200 205

Arg Tyr Asp Tyr Val Ala Val Phe Asn Gly Gly Glu Val Asn Asp Ala
210 215 220

Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile Val
225 230 235 240

Ser Glu Arg Asn Glu Leu Leu Ile Gln Phe Leu Ser Asp Leu Ser Leu
245 250 255

Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys Leu
260 265 270

Pro Thr Thr Thr Glu Gln Pro Val Thr Thr Thr Phe Pro Val Thr Thr
275 280 285

Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg Thr
290 295 300

Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala Gly
305 310 315 320

Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr Val
325 330 335

Ser Ile Ile Asn Ile Tyr Lys Glu Gly Asn Leu Ala Ile Gln Gln Ala

340

345

350

Gly Lys Asn Met Ser Ala Arg Leu Thr Val Val Cys Lys Gln Cys Pro

355

360

365

Pro Leu Arg Arg Gly Leu Asn Tyr Ile Ile Met Gly Gln Val Gly Glu

370

375

380

Asp Gly Arg Gly Lys Ile Met Pro Asn Ser Phe Ile Met Met Phe Lys

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Pro Leu Leu Ile Leu Phe Leu Leu Ser Trp Ser Gly Pro Leu Gln Gly

10

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cag cag cac cac ctt gtg gag tac atg gaa cgc cga cta gct gct tta 150

Gln Gln His His Leu Val Glu Tyr Met Glu Arg Arg Leu Ala Ala Leu

25

30

35

gag gaa cgg ctg gcc cag tgc cag gac cag agt agt cgg cat gct gct 198

Glu Glu Arg Leu Ala Gln Cys Gln Asp Gln Ser Ser Arg His Ala Ala

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45

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gag ctg cgg gac ttc aag aac aag atg ctg cca ctg ctg gag gtg gca 246

Glu Leu Arg Asp Phe Lys Asn Lys Met Leu Pro Leu Leu Glu Val Ala

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gag aag gag cgg gag gca ctc aga act gag gcc gac acc atc tcc ggg 294

Glu Lys Glu Arg Glu Ala Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly

70

75

80

85

aga gtg gat cgt ctg gag cgg gag gta gac tat ctg gag acc cag aac 342

Arg Val Asp Arg Leu Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn

90

95

100

cca gct ctg ccc tgt gta gag ttt gat gag aag gtg act gga ggc cct 390

Pro Ala Leu Pro Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro

105

110

115

ggg acc aaa ggc aag gga aga agg aat gag aag tac gat atg gtg aca 438

Gly Thr Lys Gly Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr

120

125

130

gac tgt ggc tac aca atc tct caa gtg aga tca atg aag att ctg aag 486

Asp Cys Gly Tyr Thr Ile Ser Gln Val Arg Ser Met Lys Ile Leu Lys

135

140

145

cga ttt ggt ggc cca gct ggt cta tgg acc aag gat cca ctg ggg caa 534

Arg Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys Asp Pro Leu Gly Gln

150

155

160

165

aca gag aag atc tac gtg tta gat ggg aca cag aat gac aca gcc ttt 582

Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln Asn Asp Thr Ala Phe

170

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gtc ttc cca agg ctg cgt gac ttc acc ctt gcc atg gct gcc cgg aaa 630

Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala Met Ala Ala Arg Lys

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gct tcc cga gtc cgg gtg ccc ttc ccc tgg gta ggc aca ggg cag ctg 678

Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val Gly Thr Gly Gln Leu

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gta tat ggt ggc ttt ctt tat ttt gct cgg agg cct cct gga aga cct 726

Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg Pro Pro Gly Arg Pro

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 Gly Gly Gly Gly Glu Met Glu Asn Thr Leu Gln Leu Ile Lys Phe His
 230 235 240 245

ctg gca aac cga aca gtg gtg gac agc tca gta ttc cca gca gag ggg 822
 Leu Ala Asn Arg Thr Val Val Asp Ser Ser Val Phe Pro Ala Glu Gly
 250 255 260

ctg atc ccc ccc tac ggc ttg aca gca gac acc tac atc gac ctg gca 870
 Leu Ile Pro Pro Tyr Gly Leu Thr Ala Asp Thr Tyr Ile Asp Leu Ala
 265 270 275

gct gat gag gaa ggt ctt tgg gct gtc tat gcc acc cgg gag gat gac 918
 Ala Asp Glu Glu Gly Leu Trp Ala Val Tyr Ala Thr Arg Glu Asp Asp
 280 285 290

agg cac ttg tgt ctg gcc aaa tta gat cca cag aca ctg gac aca gag 966
 Arg His Leu Cys Leu Ala Lys Leu Asp Pro Gln Thr Leu Asp Thr Glu
 295 300 305

cag cag tgg gac aca cca tgt ccc aga gag aat gct gag gct gcc ttt 1014
 Gln Gln Trp Asp Thr Pro Cys Pro Arg Glu Asn Ala Glu Ala Ala Phe
 310 315 320 325

gtc atc tgt ggg acc ctc tat gtc gtc tat aac acc cgt cct gcc agt 1062
 Val Ile Cys Gly Thr Leu Tyr Val Val Tyr Asn Thr Arg Pro Ala Ser
 330 335 340

cgg gcc cgc atc cag tgc tcc ttt gat gcc agc ggc acc ctg acc cct 1110

Arg Ala Arg Ile Gln Cys Ser Phe Asp Ala Ser Gly Thr Leu Thr Pro

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350

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Glu Arg Ala Ala Leu Pro Tyr Phe Pro Arg Arg Tyr Gly Ala His Ala

360

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agc ctc cgc tat aac ccc cga gaa cgc cag ctc tat gcc tgg gat gat 1206

Ser Leu Arg Tyr Asn Pro Arg Glu Arg Gln Leu Tyr Ala Trp Asp Asp

375

380

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ggc tac cag att gtc tat aag ctg gag atg agg aag aaa gag gag gag 1254

Gly Tyr Gln Ile Val Tyr Lys Leu Glu Met Arg Lys Lys Glu Glu Glu

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gtt tgaggagcta gccttgTTTT ttgcatcttt ctcactccca tacatttata 1307

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Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln Asp Gln Ser

35 40 45

Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn Lys Met Leu Pro

50 55 60

Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala Leu Arg Thr Glu Ala

65 70 75 80

Asp Thr Ile Ser Gly Arg Val Asp Arg Leu Glu Arg Glu Val Asp Tyr

85 90 95

Leu Glu Thr Gln Asn Pro Ala Leu Pro Cys Val Glu Phe Asp Glu Lys

100

105

110

Val Thr Gly Gly Pro Gly Thr Lys Gly Lys Gly Arg Arg Asn Glu Lys

115

120

125

Tyr Asp Met Val Thr Asp Cys Gly Tyr Thr Ile Ser Gln Val Arg Ser

130

135

140

Met Lys Ile Leu Lys Arg Phe Gly Gly Pro Ala Gly Leu Trp Thr Lys

145

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155

160

Asp Pro Leu Gly Gln Thr Glu Lys Ile Tyr Val Leu Asp Gly Thr Gln

165

170

175

Asn Asp Thr Ala Phe Val Phe Pro Arg Leu Arg Asp Phe Thr Leu Ala

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Met Ala Ala Arg Lys Ala Ser Arg Val Arg Val Pro Phe Pro Trp Val

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Gly Thr Gly Gln Leu Val Tyr Gly Gly Phe Leu Tyr Phe Ala Arg Arg

210

215

220

Pro Pro Gly Arg Pro Gly Gly Gly Gly Glu Met Glu Asn Thr Leu Gln

225

230

235

240

Leu Ile Lys Phe His Leu Ala Asn Arg Thr Val Val Asp Ser Ser Val

245

250

255

Phe Pro Ala Glu Gly Leu Ile Pro Pro Tyr Gly Leu Thr Ala Asp Thr

260

265

270

Tyr Ile Asp Leu Ala Ala Asp Glu Glu Gly Leu Trp Ala Val Tyr Ala

275

280

285

Thr Arg Glu Asp Asp Arg His Leu Cys Leu Ala Lys Leu Asp Pro Gln

290

295

300

Thr Leu Asp Thr Glu Gln Gln Trp Asp Thr Pro Cys Pro Arg Glu Asn

305

310

315

320

Ala Glu Ala Ala Phe Val Ile Cys Gly Thr Leu Tyr Val Val Tyr Asn

325

330

335

Thr Arg Pro Ala Ser Arg Ala Arg Ile Gln Cys Ser Phe Asp Ala Ser

340

345

350

Gly Thr Leu Thr Pro Glu Arg Ala Ala Leu Pro Tyr Phe Pro Arg Arg

355

360

365

Tyr Gly Ala His Ala Ser Leu Arg Tyr Asn Pro Arg Glu Arg Gln Leu

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Lys Lys Glu Glu Glu Val

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tcccccaaca accgttgcca ccacgccag aaacgtcctt aagccctggc ctcagggga 180

aaggtagcag gaggccagag ccgggaccat gtgacggcgc tggccctcgc caccgccgtc 240

ccccgaccct ggccccaggc ccggcacc atg atg ttc cga gac cag gtg ggc 292

Met Met Phe Arg Asp Gln Val Gly

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atc ctc gct ggc tgg ttc aaa ggc tgg aat gag tgt gag cag aca gtg 340

Ile Leu Ala Gly Trp Phe Lys Gly Trp Asn Glu Cys Glu Gln Thr Val

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gcc ctc ctg tca ctt ctg aaa cgg gtc acc cgt acc cag gcc cgc ttc 388
 Ala Leu Leu Ser Leu Leu Lys Arg Val Thr Arg Thr Gln Ala Arg Phe
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ctg cag ctc tgc ctg gag cac tca ctg gcg gac tgc aat gac atc cac 436

Leu Gln Leu Cys Leu Glu His Ser Leu Ala Asp Cys Asn Asp Ile His
 45 50 55

ctg ctg gag tcg gag gcc aac agt gct gcc atc gtc agc cag tgg cag 484
 Leu Leu Glu Ser Glu Ala Asn Ser Ala Ala Ile Val Ser Gln Trp Gln
 60 65 70

cag gag tcc aaa gag aag gtg gtg tcc ctc ctg ctg tcc cac ctt ccc 532
 Gln Glu Ser Lys Glu Lys Val Val Ser Leu Leu Leu Ser His Leu Pro
 75 80 85

ctg ctt cag cca ggc aac aca gag gcc aag tcg gag tac atg agg cta 580
 Leu Leu Gln Pro Gly Asn Thr Glu Ala Lys Ser Glu Tyr Met Arg Leu
 90 95 100

ctg cag aaa gtg ctg gcc tac tca atc gag agc aat gct ttc atc gag 628
 Leu Gln Lys Val Leu Ala Tyr Ser Ile Glu Ser Asn Ala Phe Ile Glu
 105 110 115 120

gag agt cgc cag ctg ctt tcc tat gcc ctc atc cac cca gcc acc aca 676
 Glu Ser Arg Gln Leu Leu Ser Tyr Ala Leu Ile His Pro Ala Thr Thr
 125 130 135

ctg gag gac cgc aac gca ctg gcc ctc tgg ctg agc cac ctg gaa gag 724

Leu Glu Asp Arg Asn Ala Leu Ala Leu Trp Leu Ser His Leu Glu Glu

140

145

150

cgg ttg gct agt ggc ttc cgc tcc cgg cca gag ccc tcc tac cat tca 772

Arg Leu Ala Ser Gly Phe Arg Ser Arg Pro Glu Pro Ser Tyr His Ser

155

160

165

cgt caa ggc tca gat gag tgg ggg ggc cct gca gag cta ggc cct ggg 820

Arg Gln Gly Ser Asp Glu Trp Gly Gly Pro Ala Glu Leu Gly Pro Gly

170

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gag gca ggg cca ggc tgg cag gac aag cca ccc cgg gaa aat gga cac 868

Glu Ala Gly Pro Gly Trp Gln Asp Lys Pro Pro Arg Glu Asn Gly His

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gtg ccc ttc cac cca tcc agc tca gtg ccg cca gcc atc aac agt att 916

Val Pro Phe His Pro Ser Ser Ser Val Pro Pro Ala Ile Asn Ser Ile

205

210

215

ggg agc aat ttc agc tta tgaaccctg taaagcaatt tcagctttgc 964

Gly Ser Asn Phe Ser Leu

220

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acaacaaaa aagcaggtat cttcacctg tgcccagagg aaagaaaagg cattggagaa 1204

gtcagcttct agagatgtgt ctcccttcgt tatgagtatg cagaagaata agtgggatgc 1264

cacaagatcc ttgagattca accaggatgc acaaagagaa gacgatcaac ggcgaatgac 1324

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agaacataaa gagaggaaat gaagctcaaa aaagggttaag agtgaaagaa aatgtaacgt 2044

ttgactaacg ttgaaagact gaggttacia aatcatgttg aaacaacaaa acaatgggga 2104

attaagcaaa taaagatatt attttacctt tgtgcagaaa ggagtgagcc atgtgcaaaa 2164

ttctgtaagt aaaatactta gagcttgaat ataatttttt aaaaattcaa atctgagttc 2224

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aaagtgattt ttgtttgtac aaat 2308

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<213> Homo sapiens

<400> 202

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Val Thr Arg Thr Gln Ala Arg Phe Leu Gln Leu Cys Leu Glu His Ser

35 40 45

Leu Ala Asp Cys Asn Asp Ile His Leu Leu Glu Ser Glu Ala Asn Ser

50

55

60

Ala Ala Ile Val Ser Gln Trp Gln Gln Glu Ser Lys Glu Lys Val Val

65

70

75

80

Ser Leu Leu Leu Ser His Leu Pro Leu Leu Gln Pro Gly Asn Thr Glu

85

90

95

Ala Lys Ser Glu Tyr Met Arg Leu Leu Gln Lys Val Leu Ala Tyr Ser

100

105

110

Ile Glu Ser Asn Ala Phe Ile Glu Glu Ser Arg Gln Leu Leu Ser Tyr

115

120

125

Ala Leu Ile His Pro Ala Thr Thr Leu Glu Asp Arg Asn Ala Leu Ala

130

135

140

Leu Trp Leu Ser His Leu Glu Glu Arg Leu Ala Ser Gly Phe Arg Ser

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155

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Arg Pro Glu Pro Ser Tyr His Ser Arg Gln Gly Ser Asp Glu Trp Gly

165

170

175

Gly Pro Ala Glu Leu Gly Pro Gly Glu Ala Gly Pro Gly Trp Gln Asp

180

185

190

Lys Pro Pro Arg Glu Asn Gly His Val Pro Phe His Pro Ser Ser Ser

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Val Pro Pro Ala Ile Asn Ser Ile Gly Ser Asn Phe Ser Leu

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tcggcagcca cagccgctgc agccggggca gcctccgctg ctgtgcctc ctctgatgcg 240

cttgccctct cccggccccg ggactccggg aga atg tgg gtc cta ggc atc gcg 294

Met Trp Val Leu Gly Ile Ala

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5

gca act ttt tgc gga ttg ttc ttg ctt cca ggc ttt gcg ctg caa atc 342

Ala Thr Phe Cys Gly Leu Phe Leu Leu Pro Gly Phe Ala Leu Gln Ile

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cag tgc tac cag tgt gaa gaa ttc cag ctg aac aac gac tgc tcc tcc 390

Gln Cys Tyr Gln Cys Glu Glu Phe Gln Leu Asn Asn Asp Cys Ser Ser

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ccc gag ttc att gtg aat tgc acg gtg aac gtt caa gac atg tgt cag 438

Pro Glu Phe Ile Val Asn Cys Thr Val Asn Val Gln Asp Met Cys Gln

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aaa gaa gtg atg gag caa agt gcc ggg atc atg tac cgc aag tcc tgt 486

Lys Glu Val Met Glu Gln Ser Ala Gly Ile Met Tyr Arg Lys Ser Cys

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gca tca tca gcg gcc tgt ctc atc gcc tct gcc ggg tac cag tcc ttc 534

Ala Ser Ser Ala Ala Cys Leu Ile Ala Ser Ala Gly Tyr Gln Ser Phe

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85

tgc tcc cca ggg aaa ctg aac tca gtt tgc atc agc tgc tgc aac acc 582

Cys Ser Pro Gly Lys Leu Asn Ser Val Cys Ile Ser Cys Cys Asn Thr

90

95

100

cct ctt tgt aac ggg cca agg ccc aag aaa agg gga agt tct gcc tcg 630

Pro Leu Cys Asn Gly Pro Arg Pro Lys Lys Arg Gly Ser Ser Ala Ser

105

110

115

gcc ctc agg cca ggg ctc cgc acc acc atc ctg ttc ctc aaa tta gcc 678

Ala Leu Arg Pro Gly Leu Arg Thr Thr Ile Leu Phe Leu Lys Leu Ala

120

125

130

135

tct tct cgg cac act gct gaa ctg aag gag atg cca ccc cct cct gca 726

Ser Ser Arg His Thr Ala Glu Leu Lys Glu Met Pro Pro Pro Pro Ala

140

145

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ttg ttc ttc cag ccc tcg ccc cca acc ccc cac ctc cct gag 768

Leu Phe Phe Gln Pro Ser Pro Pro Thr Pro His Leu Pro Glu

155

160

165

tgagtttctt ctgggtgtcc ttttattctg ggtagggagc gggagtccgt gttctctttt 828

gttcctgtgc aaataatgaa agagctcggg aaagcattct gaataaattc agcttgactg 888

aattttcagt atgtacttga aggaaggagg tggagtgaag gttcaccccc atgtctgtgt 948

aaccggagtc aaggccaggc tggcagagtc agtccttaga agtcactgag gtgggcatct 1008

gccttttgta aagccctccag tgtccattcc atccctgatg ggggcatagt ttgagactgc 1068

agagtgaag tgacgttttc ttagggctgg agggccagtt cccactcaag gtcacctgc 1128

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cctcgctctg aaaagtgcct aagaaaatct tctcagttct cccttgacga ggactggcgc 1308

cgggacgcga agagcaacgg gcgctgcaca aagcgggcgc tgcggtggt ggagtgcgca 1368

tgtagcgca ggcgcttctc gtggttggcg tgctgcagcg acaggcggca gcacagcacc 1428

tgcacgaaca cccgccgaaa ctgctgcgag gacaccgtgt acaggagcgg gttgatgacc 1488

gagctgaggt agaaaaacgt ctccgagaag gggaggagga tcatgtacgc ccggaagtag 1548

gacctcgtcc agtcgtgctt gggtttggcc gcagccatga tcctccgaat ctggttgggc 1608

atccagcata cggccaatgt cacaacaatc agccctgggc agacacgagc aggagggaga 1668

gacagagaaa agaaaaacac agcatgagaa cacagtaaatt aaataaaacc ataaaatatt 1728

tagccccctct gttctgtgct tactggccag gaaatgggtac caatttttca gtgttggact 1788

tgacagcttc ttttgccaca agcaagagag aatttaacac tgtttcaaac ccgggggagt 1848

tggctgtgtt aaagaaagac cattaaatgc tttagacagt gt 1890

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<211> 165

<212> PRT

<213> Homo sapiens

<400> 204

Met Trp Val Leu Gly Ile Ala Ala Thr Phe Cys Gly Leu Phe Leu Leu

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Pro Gly Phe Ala Leu Gln Ile Gln Cys Tyr Gln Cys Glu Glu Phe Gln

20

25

30

Leu Asn Asn Asp Cys Ser Ser Pro Glu Phe Ile Val Asn Cys Thr Val

35

40

45

Asn Val Gln Asp Met Cys Gln Lys Glu Val Met Glu Gln Ser Ala Gly

50

55

60

Ile Met Tyr Arg Lys Ser Cys Ala Ser Ser Ala Ala Cys Leu Ile Ala

65

70

75

80

Ser Ala Gly Tyr Gln Ser Phe Cys Ser Pro Gly Lys Leu Asn Ser Val

85

90

95

Cys Ile Ser Cys Cys Asn Thr Pro Leu Cys Asn Gly Pro Arg Pro Lys

100

105

110

Lys Arg Gly Ser Ser Ala Ser Ala Leu Arg Pro Gly Leu Arg Thr Thr

115

120

125

Ile Leu Phe Leu Lys Leu Ala Ser Ser Arg His Thr Ala Glu Leu Lys

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Glu Met Pro Pro Pro Pro Ala Leu Phe Phe Gln Pro Ser Pro Pro Thr

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Pro His Leu Pro Glu

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<400> 205

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tggttccctc cgaagtttcc ctcaggatag ctggcgctct cgccgccgga ggaag atg 178

Met

1

agg ctg aag att gga ttc atc tta cgc agt ttg ctg gtg gtg gga agc 226

Arg Leu Lys Ile Gly Phe Ile Leu Arg Ser Leu Leu Val Val Gly Ser

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ttc ctg ggg cta gtg gtc ctc tgg tct tcc ctg acc ccg cgg ccg gac 274

Phe Leu Gly Leu Val Val Leu Trp Ser Ser Leu Thr Pro Arg Pro Asp

20

25

30

gac cca agc ccg ctg agc agg atg agg gaa gac aga gat gtc aat gac 322

Asp Pro Ser Pro Leu Ser Arg Met Arg Glu Asp Arg Asp Val Asn Asp

35

40

45

ccc atg ccc aac cga ggc ggc aat gga cta gct cct ggg gag gac aga 370

Pro Met Pro Asn Arg Gly Gly Asn Gly Leu Ala Pro Gly Glu Asp Arg

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ttc aaa cct gtg gta cca tgg cct cat gtt gaa gga gta gaa gtg gac 418

Phe Lys Pro Val Val Pro Trp Pro His Val Glu Gly Val Glu Val Asp

70

75

80

tta gag tct att aga aga ata aac aag gcc aaa aat gaa caa gag cac 466

Leu Glu Ser Ile Arg Arg Ile Asn Lys Ala Lys Asn Glu Gln Glu His

85

90

95

cat gct gga gga gat tcc cag aaa gat atc atg cag agg cag tat ctc 514

His Ala Gly Gly Asp Ser Gln Lys Asp Ile Met Gln Arg Gln Tyr Leu

100

105

110

aca ttt aag cct cag aca ttc acc tac cat gat cct gtg ctt cgc cca 562

Thr Phe Lys Pro Gln Thr Phe Thr Tyr His Asp Pro Val Leu Arg Pro

115

120

125

ggg atc ctc ggt aac ttt gaa ccc aaa gaa cct gag cct cct gga gtg 610

Gly Ile Leu Gly Asn Phe Glu Pro Lys Glu Pro Glu Pro Pro Gly Val

130

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140

145

gtt ggt ggc cct gga gag aaa gcc aag cca ttg gtt ttg gga cca gaa 658

Val Gly Gly Pro Gly Glu Lys Ala Lys Pro Leu Val Leu Gly Pro Glu

150

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ttc aaa caa gca att caa gcc agc att aaa gag ttt gga ttt aac atg 706

Phe Lys Gln Ala Ile Gln Ala Ser Ile Lys Glu Phe Gly Phe Asn Met

165

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gtg gca agt gac atg atc tca ctg gac cgc agc gtc aat gac tta cgc 754

Val Ala Ser Asp Met Ile Ser Leu Asp Arg Ser Val Asn Asp Leu Arg

180

185

190

caa gaa gaa tgc aag tat tgg cat tat gat gaa aac ttg ctc act tcg 802

Gln Glu Glu Cys Lys Tyr Trp His Tyr Asp Glu Asn Leu Leu Thr Ser

195

200

205

agc gtt gtc att gtc ttc cat aat gaa gga tgg tca acc ctc atg aga 850

Ser Val Val Ile Val Phe His Asn Glu Gly Trp Ser Thr Leu Met Arg

210

215

220

225

aca gtc cac agt gta att aaa agg act cca agg aaa tat tta gca gaa 898

Thr Val His Ser Val Ile Lys Arg Thr Pro Arg Lys Tyr Leu Ala Glu

230

235

240

att gtg tta att gac gat ttc agt aat aaa gaa cac tta aaa gaa aaa 946

Ile Val Leu Ile Asp Asp Phe Ser Asn Lys Glu His Leu Lys Glu Lys

245

250

255

ctg gat gaa tat att aag ctg tgg aat ggc cta gtg aag gta ttt cga 994

Leu Asp Glu Tyr Ile Lys Leu Trp Asn Gly Leu Val Lys Val Phe Arg

260

265

270

aat gaa aga agg gaa ggt tta att caa gca cga agt att ggt gct cag 1042

Asn Glu Arg Arg Glu Gly Leu Ile Gln Ala Arg Ser Ile Gly Ala Gln

275

280

285

aag gct aaa ctt gga cag gtt ttg ata tac ctt gat gcc cac tgt gag 1090

Lys Ala Lys Leu Gly Gln Val Leu Ile Tyr Leu Asp Ala His Cys Glu

290

295

300

305

gtg gca gtt aac tgg tat gca cca ctt gta gct ccc ata tct aag gac 1138

Val Ala Val Asn Trp Tyr Ala Pro Leu Val Ala Pro Ile Ser Lys Asp

310

315

320

aga acc att tgc act gtg ccg ctt ata gat gtc ata aat ggc aac aca 1186

Arg Thr Ile Cys Thr Val Pro Leu Ile Asp Val Ile Asn Gly Asn Thr

325

330

335

tat gaa att ata ccc caa ggg ggt ggt gat gaa gat ggg tat gcc cga 1234

Tyr Glu Ile Ile Pro Gln Gly Gly Gly Asp Glu Asp Gly Tyr Ala Arg

340

345

350

gga gca tgg gat tgg agt atg ctc tgg aaa cgg gtg cct ctg acc cct 1282

Gly Ala Trp Asp Trp Ser Met Leu Trp Lys Arg Val Pro Leu Thr Pro

355

360

365

caa gag aag aga ctg aga aag aca aaa act gaa ccg tat cgg tcc cca 1330

Gln Glu Lys Arg Leu Arg Lys Thr Lys Thr Glu Pro Tyr Arg Ser Pro

370

375

380

385

gcc atg gct ggg gga tta ttt gcc att gaa cga gag ttc ttc ttt gaa 1378

Ala Met Ala Gly Gly Leu Phe Ala Ile Glu Arg Glu Phe Phe Phe Glu

390	395	400	
ttg ggt ctc tat gat cca ggt ctc cag att tgg ggt ggt gaa aac ttt	1426		
Leu Gly Leu Tyr Asp Pro Gly Leu Gln Ile Trp Gly Gly Glu Asn Phe			
405	410	415	

gag atc tca tac aag ata tgg cag tgt ggt ggc aaa tta tta ttt gtt	1474
Glu Ile Ser Tyr Lys Ile Trp Gln Cys Gly Gly Lys Leu Leu Phe Val	
420	425
	430

cct tgt tct cgt gtt gga cat atc tac cgt ctt gag ggc tgg caa gga	1522
Pro Cys Ser Arg Val Gly His Ile Tyr Arg Leu Glu Gly Trp Gln Gly	
435	440
	445

aat cct ccg ccc att tat gtt ggg tct tct cca act ctg aag aat tat	1570
Asn Pro Pro Pro Ile Tyr Val Gly Ser Ser Pro Thr Leu Lys Asn Tyr	
450	455
	460
	465

gtt aga gtt gtg gag gtt tgg tgg gat gaa tat aaa gac tac ttc tat	1618
Val Arg Val Val Glu Val Trp Trp Asp Glu Tyr Lys Asp Tyr Phe Tyr	
470	475
	480

gct agt cgt cct gaa tcg cag gca tta cca tat ggg gat ata tcg gag	1666
Ala Ser Arg Pro Glu Ser Gln Ala Leu Pro Tyr Gly Asp Ile Ser Glu	
485	490
	495

ctg aaa aaa ttt cga gaa gat cac aac tgc aaa agt ttt aag tgg ttc	1714
Leu Lys Lys Phe Arg Glu Asp His Asn Cys Lys Ser Phe Lys Trp Phe	
500	505
	510

atg gaa gaa ata gct tat gat atc acc tca cac tac cct ttg cca ccc 1762
Met Glu Glu Ile Ala Tyr Asp Ile Thr Ser His Tyr Pro Leu Pro Pro
515 520 525

aaa aat gtt gac tgg gga gaa atc aga ggc ttc gaa act gct tac tgc 1810
Lys Asn Val Asp Trp Gly Glu Ile Arg Gly Phe Glu Thr Ala Tyr Cys
530 535 540 545

att gat agc atg gga aaa aca aat gga ggc ttt gtt gaa cta gga ccc 1858
Ile Asp Ser Met Gly Lys Thr Asn Gly Gly Phe Val Glu Leu Gly Pro
550 555 560

tgc cac agg atg gga ggg aat cag ctt ttc aga atc aat gaa gca aat 1906
Cys His Arg Met Gly Gly Asn Gln Leu Phe Arg Ile Asn Glu Ala Asn
565 570 575

caa ctc atg cag tat gac cag tgt ttg aca aag gga gct gat gga tca 1954
Gln Leu Met Gln Tyr Asp Gln Cys Leu Thr Lys Gly Ala Asp Gly Ser
580 585 590

aaa gtt atg att aca cac tgt aat cta aat gaa ttt aag gaa tgg cag 2002
Lys Val Met Ile Thr His Cys Asn Leu Asn Glu Phe Lys Glu Trp Gln
595 600 605

tac ttc aag aac ctg cac aga ttt act cat att cct tca gga aag tgt 2050
Tyr Phe Lys Asn Leu His Arg Phe Thr His Ile Pro Ser Gly Lys Cys
610 615 620 625

tta gat cgc tca gag gtc ctg cat caa gta ttc atc tcc aat tgt gac 2098

Leu Asp Arg Ser Glu Val Leu His Gln Val Phe Ile Ser Asn Cys Asp

630

635

640

tcc agt aaa acg act caa aaa tgg gaa atg aat aac atc cat agt gtt 2146

Ser Ser Lys Thr Thr Gln Lys Trp Glu Met Asn Asn Ile His Ser Val

645

650

655

tagagag

2153

<210> 206

<211> 657

<212> PRT

<213> Homo sapiens

<400> 206

Met Arg Leu Lys Ile Gly Phe Ile Leu Arg Ser Leu Leu Val Val Gly

1

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Ser Phe Leu Gly Leu Val Val Leu Trp Ser Ser Leu Thr Pro Arg Pro

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25

30

Asp Asp Pro Ser Pro Leu Ser Arg Met Arg Glu Asp Arg Asp Val Asn

35

40

45

Asp Pro Met Pro Asn Arg Gly Gly Asn Gly Leu Ala Pro Gly Glu Asp

50

55

60

Arg Phe Lys Pro Val Val Pro Trp Pro His Val Glu Gly Val Glu Val
65 70 75 80

Asp Leu Glu Ser Ile Arg Arg Ile Asn Lys Ala Lys Asn Glu Gln Glu
85 90 95

His His Ala Gly Gly Asp Ser Gln Lys Asp Ile Met Gln Arg Gln Tyr
100 105 110

Leu Thr Phe Lys Pro Gln Thr Phe Thr Tyr His Asp Pro Val Leu Arg
115 120 125

Pro Gly Ile Leu Gly Asn Phe Glu Pro Lys Glu Pro Glu Pro Pro Gly
130 135 140

Val Val Gly Gly Pro Gly Glu Lys Ala Lys Pro Leu Val Leu Gly Pro
145 150 155 160

Glu Phe Lys Gln Ala Ile Gln Ala Ser Ile Lys Glu Phe Gly Phe Asn
165 170 175

Met Val Ala Ser Asp Met Ile Ser Leu Asp Arg Ser Val Asn Asp Leu
180 185 190

Arg Gln Glu Glu Cys Lys Tyr Trp His Tyr Asp Glu Asn Leu Leu Thr
195 200 205

Ser Ser Val Val Ile Val Phe His Asn Glu Gly Trp Ser Thr Leu Met
210 215 220

Arg Thr Val His Ser Val Ile Lys Arg Thr Pro Arg Lys Tyr Leu Ala
225 230 235 240

Glu Ile Val Leu Ile Asp Asp Phe Ser Asn Lys Glu His Leu Lys Glu
245 250 255

Lys Leu Asp Glu Tyr Ile Lys Leu Trp Asn Gly Leu Val Lys Val Phe
260 265 270

Arg Asn Glu Arg Arg Glu Gly Leu Ile Gln Ala Arg Ser Ile Gly Ala
275 280 285

Gln Lys Ala Lys Leu Gly Gln Val Leu Ile Tyr Leu Asp Ala His Cys
290 295 300

Glu Val Ala Val Asn Trp Tyr Ala Pro Leu Val Ala Pro Ile Ser Lys
305 310 315 320

Asp Arg Thr Ile Cys Thr Val Pro Leu Ile Asp Val Ile Asn Gly Asn
325 330 335

Thr Tyr Glu Ile Ile Pro Gln Gly Gly Gly Asp Glu Asp Gly Tyr Ala
340 345 350

Arg Gly Ala Trp Asp Trp Ser Met Leu Trp Lys Arg Val Pro Leu Thr
355 360 365

Pro Gln Glu Lys Arg Leu Arg Lys Thr Lys Thr Glu Pro Tyr Arg Ser

370

375

380

Pro Ala Met Ala Gly Gly Leu Phe Ala Ile Glu Arg Glu Phe Phe Phe

385

390

395

400

Glu Leu Gly Leu Tyr Asp Pro Gly Leu Gln Ile Trp Gly Gly Glu Asn

405

410

415

Phe Glu Ile Ser Tyr Lys Ile Trp Gln Cys Gly Gly Lys Leu Leu Phe

420

425

430

Val Pro Cys Ser Arg Val Gly His Ile Tyr Arg Leu Glu Gly Trp Gln

435

440

445

Gly Asn Pro Pro Pro Ile Tyr Val Gly Ser Ser Pro Thr Leu Lys Asn

450

455

460

Tyr Val Arg Val Val Glu Val Trp Trp Asp Glu Tyr Lys Asp Tyr Phe

465

470

475

480

Tyr Ala Ser Arg Pro Glu Ser Gln Ala Leu Pro Tyr Gly Asp Ile Ser

485

490

495

Glu Leu Lys Lys Phe Arg Glu Asp His Asn Cys Lys Ser Phe Lys Trp

500

505

510

Phe Met Glu Glu Ile Ala Tyr Asp Ile Thr Ser His Tyr Pro Leu Pro

515

520

525

Pro Lys Asn Val Asp Trp Gly Glu Ile Arg Gly Phe Glu Thr Ala Tyr

530

535

540

Cys Ile Asp Ser Met Gly Lys Thr Asn Gly Gly Phe Val Glu Leu Gly

545

550

555

560

Pro Cys His Arg Met Gly Gly Asn Gln Leu Phe Arg Ile Asn Glu Ala

565

570

575

Asn Gln Leu Met Gln Tyr Asp Gln Cys Leu Thr Lys Gly Ala Asp Gly

580

585

590

Ser Lys Val Met Ile Thr His Cys Asn Leu Asn Glu Phe Lys Glu Trp

595

600

605

Gln Tyr Phe Lys Asn Leu His Arg Phe Thr His Ile Pro Ser Gly Lys

610

615

620

Cys Leu Asp Arg Ser Glu Val Leu His Gln Val Phe Ile Ser Asn Cys

625

630

635

640

Asp Ser Ser Lys Thr Thr Gln Lys Trp Glu Met Asn Asn Ile His Ser

645

650

655

Val

<210> 207

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<213> Homo sapiens

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<222> (202)..(1554)

<400> 207

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ggaagacccg ggtggctgcg cccctgcctc gcttcccagg cgccggcggc tgcagccttg 180

cccctcttgc tcgccttgaa a atg gaa aag atg ctc gca ggc tgc ttt ctg 231

Met Glu Lys Met Leu Ala Gly Cys Phe Leu

1 5 10

ctg atc ctc gga cag atc gtc ctc ctc cct gcc gag gcc agg gag cgg 279

Leu Ile Leu Gly Gln Ile Val Leu Leu Pro Ala Glu Ala Arg Glu Arg

15 20 25

tca cgt ggg agg tcc atc tct agg ggc aga cac gct cgg acc cac ccg 327

Ser Arg Gly Arg Ser Ile Ser Arg Gly Arg His Ala Arg Thr His Pro

30 35 40

cag acg gcc ctt ctg gag agt tcc tgt gag aac aag cgg gca gac ctg 375

Gln Thr Ala Leu Leu Glu Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu

45 50 55
 gtt ttc atc att gac agc tct cgc agt gtc aac acc cat gac tat gca 423
 Val Phe Ile Ile Asp Ser Ser Arg Ser Val Asn Thr His Asp Tyr Ala
 60 65 70

aag gtc aag gag ttc atc gtg gac atc ttg caa ttc ttg gac att ggt 471
 Lys Val Lys Glu Phe Ile Val Asp Ile Leu Gln Phe Leu Asp Ile Gly
 75 80 85 90

cct gat gtc acc cga gtg ggc ctg ctc caa tat ggc agc act gtc aag 519
 Pro Asp Val Thr Arg Val Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys
 95 100 105

aat gag ttc tcc ctc aag acc ttc aag agg aag tcc gag gtg gag cgt 567
 Asn Glu Phe Ser Leu Lys Thr Phe Lys Arg Lys Ser Glu Val Glu Arg
 110 115 120

gct gtc aag agg atg cgg cat ccg tcc acg ggc acc atg act ggg ctg 615
 Ala Val Lys Arg Met Arg His Pro Ser Thr Gly Thr Met Thr Gly Leu
 125 130 135

gcc atc cag tat gcc ctg aac atc gca ttc tca gaa gca gag ggg gcc 663
 Ala Ile Gln Tyr Ala Leu Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala
 140 145 150

cgg ccc ctg agg gag aat gtg cca cgg gtc ata atg atc gtg aca gat 711
 Arg Pro Leu Arg Glu Asn Val Pro Arg Val Ile Met Ile Val Thr Asp
 155 160 165 170

ggg aga cct cag gac tcc gtg gcc gag gtg gct gct aag gca cgg gac 759

Gly Arg Pro Gln Asp Ser Val Ala Glu Val Ala Ala Lys Ala Arg Asp

175

180

185

acg ggc atc cta atc ttt gcc att ggt gtg ggc cag gta gac ttc aac 807

Thr Gly Ile Leu Ile Phe Ala Ile Gly Val Gly Gln Val Asp Phe Asn

190

195

200

acc ttg aag tcc att ggg agt gag ccc cat gag gac cat gtc ttc ctt 855

Thr Leu Lys Ser Ile Gly Ser Glu Pro His Glu Asp His Val Phe Leu

205

210

215

gtg gcc aat ttc agc cag att gag acg ctg acc tcc gtg ttc cag aag 903

Val Ala Asn Phe Ser Gln Ile Glu Thr Leu Thr Ser Val Phe Gln Lys

220

225

230

aag ttg tgc acg gcc cat atg tgc agc acc ctg gag cat aac tgt gcc 951

Lys Leu Cys Thr Ala His Met Cys Ser Thr Leu Glu His Asn Cys Ala

235

240

245

250

cac ttc tgc atc aac atc cct ggc tca tac gtc tgc agg tgc aaa caa 999

His Phe Cys Ile Asn Ile Pro Gly Ser Tyr Val Cys Arg Cys Lys Gln

255

260

265

ggc tac att ctc aac tcg gat cag acg act tgc aga atc cag gat ctg 1047

Gly Tyr Ile Leu Asn Ser Asp Gln Thr Thr Cys Arg Ile Gln Asp Leu

270

275

280

tgt gcc atg gag gac cac aac tgt gag cag ctc tgt gtg aat gtg ccg 1095
Cys Ala Met Glu Asp His Asn Cys Glu Gln Leu Cys Val Asn Val Pro

285

290

295

ggc tcc ttc gtc tgc cag tgc tac agt ggc tac gcc ctg gct gag gat 1143
Gly Ser Phe Val Cys Gln Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp

300

305

310

ggg aag agg tgt gtg gct gtg gac tac tgt gcc tca gaa aac cac gga 1191
Gly Lys Arg Cys Val Ala Val Asp Tyr Cys Ala Ser Glu Asn His Gly

315

320

325

330

tgt gaa cat gag tgt gta aat gct gat ggc tcc tac ctt tgc cag tgc 1239
Cys Glu His Glu Cys Val Asn Ala Asp Gly Ser Tyr Leu Cys Gln Cys

335

340

345

cat gag gga ttt gct ctt aac cca gat aaa aaa acg tgc aca aag ata 1287
His Glu Gly Phe Ala Leu Asn Pro Asp Lys Lys Thr Cys Thr Lys Ile

350

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360

gac tac tgt gcc tca tct aat cac gga tgt cag cac gag tgt gtt aac 1335
Asp Tyr Cys Ala Ser Ser Asn His Gly Cys Gln His Glu Cys Val Asn

365

370

375

aca gat gat tcc tat tcc tgc cac tgc ctg aaa ggc ttt acc ctg aat 1383
Thr Asp Asp Ser Tyr Ser Cys His Cys Leu Lys Gly Phe Thr Leu Asn

380

385

390

cca gat aag aaa acc tgc aga agg atc aac tac tgt gca ctg aac aaa 1431

Pro Asp Lys Lys Thr Cys Arg Arg Ile Asn Tyr Cys Ala Leu Asn Lys
395 400 405 410

ccg ggc tgt gag cat gag tgc gtc aac atg gag gag agc tac tac tgc 1479
Pro Gly Cys Glu His Glu Cys Val Asn Met Glu Glu Ser Tyr Tyr Cys
415 420 425

cgc tgc cac cgt ggc tac act ctg gac ccc aat ggc aaa acc tgc agc 1527
Arg Cys His Arg Gly Tyr Thr Leu Asp Pro Asn Gly Lys Thr Cys Ser
430 435 440

cgt gag tgt acc cta ggg gtg ggg tgc tgatggaagg tggggtccac 1574
Arg Glu Cys Thr Leu Gly Val Gly Cys
445 450

tcatgggggc gggcgggttc actagcaacc agttatttct ggagcccacc gggtttcctg 1634

atggtctgtc aggtgtatcc ttccttatcc tcagtttcat cacccataga atgtgactat 1694

taatgctatc ggcctagcca acttgggttg caaggattaa aagaattaat aggaataggc 1754

tgggcgcggt ggctcacgcc tgtaatccca gcacaggag gccaaaggcgg gcagatcacc 1814

tgaggtcagg agttcaagac cagcctggcc aacatggtga aaccctatct ctactaaaaa 1874

tacaaaaaat tagctgggtg tgggtgtggg tgcctataat cccagctact cgggaggctg 1934

aagcaggaga attactcgaa cctaggaggc agaggtgcag tgagctgaga ttgcgccatt 1994

gcactccaac ctgggcgaca aagcaaaact tcatctc

2031

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<211> 451

<212> PRT

<213> Homo sapiens

<400> 208

Met Glu Lys Met Leu Ala Gly Cys Phe Leu Leu Ile Leu Gly Gln Ile

1

5

10

15

Val Leu Leu Pro Ala Glu Ala Arg Glu Arg Ser Arg Gly Arg Ser Ile

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25

30

Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu

35

40

45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser

50

55

60

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile

65

70

75

80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val

85

90

95

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Phe Ser Leu Lys

100

105

110

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg

115

120

125

His Pro Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu

130

135

140

Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala Arg Pro Leu Arg Glu Asn

145

150

155

160

Val Pro Arg Val Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser

165

170

175

Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe

180

185

190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly

195

200

205

Ser Glu Pro His Glu Asp His Val Phe Leu Val Ala Asn Phe Ser Gln

210

215

220

Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His

225

230

235

240

Met Cys Ser Thr Leu Glu His Asn Cys Ala His Phe Cys Ile Asn Ile

245

250

255

Pro Gly Ser Tyr Val Cys Arg Cys Lys Gln Gly Tyr Ile Leu Asn Ser

260

265

270

Asp Gln Thr Thr Cys Arg Ile Gln Asp Leu Cys Ala Met Glu Asp His

275

280

285

Asn Cys Glu Gln Leu Cys Val Asn Val Pro Gly Ser Phe Val Cys Gln

290

295

300

Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp Gly Lys Arg Cys Val Ala

305

310

315

320

Val Asp Tyr Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val

325

330

335

Asn Ala Asp Gly Ser Tyr Leu Cys Gln Cys His Glu Gly Phe Ala Leu

340

345

350

Asn Pro Asp Lys Lys Thr Cys Thr Lys Ile Asp Tyr Cys Ala Ser Ser

355

360

365

Asn His Gly Cys Gln His Glu Cys Val Asn Thr Asp Asp Ser Tyr Ser

370

375

380

Cys His Cys Leu Lys Gly Phe Thr Leu Asn Pro Asp Lys Lys Thr Cys

385

390

395

400

Arg Arg Ile Asn Tyr Cys Ala Leu Asn Lys Pro Gly Cys Glu His Glu

405

410

415

Cys Val Asn Met Glu Glu Ser Tyr Tyr Cys Arg Cys His Arg Gly Tyr

420

425

430

Thr Leu Asp Pro Asn Gly Lys Thr Cys Ser Arg Glu Cys Thr Leu Gly

435

440

445

Val Gly Cys

450

<210> 209

<211> 1841

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (51)..(632)

<400> 209

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Leu Leu Pro Cys Ala Ala Gly Thr Ser Ala Phe Leu Ser Ser Gln Leu

5

10

15

aca ata ggt gcc tct tcc tcc tcc cgg cca tcc acg ccg gcc tgg ttt 152

Thr Ile Gly Ala Ser Ser Ser Ser Arg Pro Ser Thr Pro Ala Trp Phe
20 25 30

tcg gtt ctg gaa tac atc caa ccc ttt cgt tcg tgt tct ttt ctc ctg 200
Ser Val Leu Glu Tyr Ile Gln Pro Phe Arg Ser Cys Ser Phe Leu Leu
35 40 45 50

tca tct tct ccg cct gga gct ctt cca tgt tct ctt tgc aca agc gac 248
Ser Ser Ser Pro Pro Gly Ala Leu Pro Cys Ser Leu Cys Thr Ser Asp
55 60 65

tct atc ctt cca gtt tca gat gat ttc acc tcc tca aag agg cct ttg 296
Ser Ile Leu Pro Val Ser Asp Asp Phe Thr Ser Ser Lys Arg Pro Leu
70 75 80

gga cca gcc ttt tct aaa gct ttc ctt gag aat gct ggt caa gat tta 344
Gly Pro Ala Phe Ser Lys Ala Phe Leu Glu Asn Ala Gly Gln Asp Leu
85 90 95

cct ttt aat ttt gtt ttt tct gtt tgt tct gtc tcc tct gcc ggc tgc 392
Pro Phe Asn Phe Val Phe Ser Val Cys Ser Val Ser Ser Ala Gly Cys
100 105 110

ttg agc tcc agg atc aca gag gac atg agt gtt ctg ttc cca ctg atg 440
Leu Ser Ser Arg Ile Thr Glu Asp Met Ser Val Leu Phe Pro Leu Met
115 120 125 130

cct ggt gcc aga ctg gga cac gtg tgc tca gcc atg gct aat gtg cgc 488
Pro Gly Ala Arg Leu Gly His Val Cys Ser Ala Met Ala Asn Val Arg

135

140

145

agg cag gga tgg tca cac agt ggc ctc ttg gcg ctc tgg ccg agt ggg 536

Arg Gln Gly Trp Ser His Ser Gly Leu Leu Ala Leu Trp Pro Ser Gly

150

155

160

agg agc aag ggg agg agc tgt cag aag gag acc tgc cta gtc aca ggc 584

Arg Ser Lys Gly Arg Ser Cys Gln Lys Glu Thr Cys Leu Val Thr Gly

165

170

175

agg tca cag ggc ttc cag aat ccc att cag gtg atc ccc tcc tgg tgg 632

Arg Ser Gln Gly Phe Gln Asn Pro Ile Gln Val Ile Pro Ser Trp Trp

180

185

190

taaacagcac acctcagaag tgggtgttttg tcatagttgt tcttatggct cccacagcct 692

catctctgtt ttgtccattt gggattgagg agttgttgag tccagcgtca ccttcagagc 752

cagtgcactc cttatcaata gtgagggccg ctcgttttga ttgttccgtt tcgcttgata 812

aagctgagtg agaattatat tggccaacag aaacgtctct ctccatgtga acacagccac 872

tgggtcacca gggacgtggc ttacagttcc agcaggetcc tgtcacactg gtgccttttg 932

gcagtacaga actgtgctgc tgggtgtgac gtccggggct gtgcagtgtc gcttcctttt 992

gcatatgttg ctattggtgt catttcctct ctgagatcag tggaagtctc aggtcagtec 1052

cgtggccctg tattgcttag tgggccatgt gtttaaactt caaaaggca tattttaaat 1112

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tgggaccgag gggctggagg agaggcggag ctgtgcccc a gctgttccag cagcttgtct 1472

ggcgtcaact ggctttcaga gtgctgaccc ctcatcactg tggggatcat tctctctgag 1532

ggcagatgag gcgcaggaaa atagtcttgg aaatgttaaa tatgatgggt aaattaaaag 1592

ttttacaaca ttctacctaa ttttttctt ttaacatact ctttctgttc tattgtatta 1652

tggtgtccga aagctaaata acgactagga aaaatttttt taaaaaaaga aaaatcagtt 1712

taatgtggga agtacttaag tggtattata ttttacattt tcaagtatag tgcataaaga 1772

atgtttttaa tgtaactggt ttcattggatt tcaattagac atgcctataa taaactaagt 1832

atgtggctt 1841

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<211> 194

<212> PRT

<213> Homo sapiens

<400> 210

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5

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15

Gln Leu Thr Ile Gly Ala Ser Ser Ser Ser Arg Pro Ser Thr Pro Ala

20

25

30

Trp Phe Ser Val Leu Glu Tyr Ile Gln Pro Phe Arg Ser Cys Ser Phe

35

40

45

Leu Leu Ser Ser Ser Pro Pro Gly Ala Leu Pro Cys Ser Leu Cys Thr

50

55

60

Ser Asp Ser Ile Leu Pro Val Ser Asp Asp Phe Thr Ser Ser Lys Arg

65

70

75

80

Pro Leu Gly Pro Ala Phe Ser Lys Ala Phe Leu Glu Asn Ala Gly Gln

85

90

95

Asp Leu Pro Phe Asn Phe Val Phe Ser Val Cys Ser Val Ser Ser Ala

100

105

110

Gly Cys Leu Ser Ser Arg Ile Thr Glu Asp Met Ser Val Leu Phe Pro

115

120

125

Leu Met Pro Gly Ala Arg Leu Gly His Val Cys Ser Ala Met Ala Asn

130

135

140

Val Arg Arg Gln Gly Trp Ser His Ser Gly Leu Leu Ala Leu Trp Pro

145

150

155

160

Ser Gly Arg Ser Lys Gly Arg Ser Cys Gln Lys Glu Thr Cys Leu Val

165

170

175

Thr Gly Arg Ser Gln Gly Phe Gln Asn Pro Ile Gln Val Ile Pro Ser

180

185

190

Trp Trp

<210> 211

<211> 1493

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (77)..(1492)

<400> 211

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ggcatttctc cccgag atg gcg ggt ctg acg gcg gcg gcc ccg cgg ccc gga 112

Met Ala Gly Leu Thr Ala Ala Ala Pro Arg Pro Gly

1 5 10

gtc ctc ctg ctc ctg ctg tcc atc ctc cac ccc tct cgg cct gga ggg 160

Val Leu Leu Leu Leu Leu Ser Ile Leu His Pro Ser Arg Pro Gly Gly

15 20 25

gtc cct ggg gcc att cct ggt gga gtt cct gga gga gtc ttt tat cca 208

Val Pro Gly Ala Ile Pro Gly Gly Val Pro Gly Gly Val Phe Tyr Pro

30 35 40

ggg gct ggt ctc gga gcc ctt gga gga gga gcg ctg ggg cct gga ggc 256

Gly Ala Gly Leu Gly Ala Leu Gly Gly Gly Ala Leu Gly Pro Gly Gly

45 50 55 60

aaa cct ctt aag cca gtt ccc gga ggg ctt gcg ggt gct ggc ctt ggg 304

Lys Pro Leu Lys Pro Val Pro Gly Gly Leu Ala Gly Ala Gly Leu Gly

65 70 75

gca ggg ctc ggg gct ctc ggt gga gta ggc atc cca ggc ggt gtg gtg 352

Ala Gly Leu Gly Ala Leu Gly Gly Val Gly Ile Pro Gly Gly Val Val

80 85 90

gga gcc gga ccc gcc gcc gcc gct gcc gca gcc gct aag gca gcc aag 400

Gly Ala Gly Pro Ala Ala Ala Ala Ala Ala Ala Lys Ala Ala Lys

95 100 105

tat gga gct gct gca ggc tta gtg cct ggt ggg cca ggc ttt ggc ccg 448

Tyr Gly Ala Ala Ala Gly Leu Val Pro Gly Gly Pro Gly Phe Gly Pro

110	115	120	
gga gta gtt ggt gtc cca gga gct ggc gtt cca ggt gtt ggt gtc cca 496			
Gly Val Val Gly Val Pro Gly Ala Gly Val Pro Gly Val Gly Val Pro			
125	130	135	140
<hr/>			
gga gct ggg att cca gtt gtc cca ggt gct ggg atc cca ggt gct gcg 544			
Gly Ala Gly Ile Pro Val Val Pro Gly Ala Gly Ile Pro Gly Ala Ala			
	145	150	155
ggt cca ggg gtt gtg tca cca gaa gca gct gct aag gca gct gca aag 592			
Val Pro Gly Val Val Ser Pro Glu Ala Ala Ala Lys Ala Ala Ala Lys			
	160	165	170
gca gcc aaa tac ggg gcc agg ccc gga gtc gga gtt gga ggc att cct 640			
Ala Ala Lys Tyr Gly Ala Arg Pro Gly Val Gly Val Gly Gly Ile Pro			
	175	180	185
act tac ggg gtt gga gct ggg ggc ttt ccc ggc ttt ggt gtc gga gtc 688			
Thr Tyr Gly Val Gly Ala Gly Gly Phe Pro Gly Phe Gly Val Gly Val			
	190	195	200
gga ggt atc cct gga gtc gca ggt gtc cct ggt gtc gga ggt gtt ccc 736			
Gly Gly Ile Pro Gly Val Ala Gly Val Pro Gly Val Gly Gly Val Pro			
205	210	215	220
gga gtc gga ggt gtc ccg gga gtt ggc att tcc ccc gaa gct cag gca 784			
Gly Val Gly Gly Val Pro Gly Val Gly Ile Ser Pro Glu Ala Gln Ala			
	225	230	235

gca gct gcc gcc aag gct gcc aag tac ggg tta gtt cct ggt gtc ggc 832
 Ala Ala Ala Ala Lys Ala Ala Lys Tyr Gly Leu Val Pro Gly Val Gly
 240 245 250

gtg gct cct gga gtt ggc gtg gct cct ggt gtc ggt gtg gct cct gga 880
 Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly
 255 260 265

gtt ggc ttg gct cct gga gtt ggc gtg gct cct gga gtt ggt gtg gct 928
 Val Gly Leu Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala
 270 275 280

cct ggc gtt ggc gtg gct ccc ggc att ggc cct ggt gga gtt gca gct 976
 Pro Gly Val Gly Val Ala Pro Gly Ile Gly Pro Gly Gly Val Ala Ala
 285 290 295 300

gca gca aaa tcc gct gcc aag gtg gct gcc aaa gcc cag ctc cga gct 1024
 Ala Ala Lys Ser Ala Ala Lys Val Ala Ala Lys Ala Gln Leu Arg Ala
 305 310 315

gca gct ggg ctt ggt gct ggc atc cct gga ctt gga gtt ggt gtc ggc 1072
 Ala Ala Gly Leu Gly Ala Gly Ile Pro Gly Leu Gly Val Gly Val Gly
 320 325 330

gtc cct gga ctt gga gtt ggt act ggt gtt cct gga ctt gga gtt ggt 1120
 Val Pro Gly Leu Gly Val Gly Thr Gly Val Pro Gly Leu Gly Val Gly
 335 340 345

gct ggt gtt cct ggc ttc ggg gca gta cct ggt gcc ctg gct gcc gct 1168
 Ala Gly Val Pro Gly Phe Gly Ala Val Pro Gly Ala Leu Ala Ala Ala
 350 355 360

aaa gca gcc aaa tat gga gca gca gtg cct ggg gtc ctt gga ggg ctc 1216
 Lys Ala Ala Lys Tyr Gly Ala Ala Val Pro Gly Val Leu Gly Gly Leu

365 370 375 380

ggg gct ctc ggt gga gta ggc atc aac ctg gtt gac ctg tca tgg ccg 1264
 Gly Ala Leu Gly Gly Val Gly Ile Asn Leu Val Asp Leu Ser Trp Pro
 385 390 395

cct gtg ccc tgc ctc cac ccc cat cct ata ctc ccc cag ggc gtg cgg 1312
 Pro Val Pro Cys Leu His Pro His Pro Ile Leu Pro Gln Gly Val Arg
 400 405 410

ggc tgt gca gac tgg ggt gcc agg cat ctc ctc ccc acc cgg ggt gtc 1360
 Gly Cys Ala Asp Trp Gly Ala Arg His Leu Leu Pro Thr Arg Gly Val
 415 420 425

ccc aca tgc agt act gta tac ccc cca tcc ctc cct cgg tcc act gaa 1408
 Pro Thr Cys Ser Thr Val Tyr Pro Pro Ser Leu Pro Arg Ser Thr Glu
 430 435 440

ctt cag agc agt tcc cat tcc tgc ccc gcc cat ctt ttt gtg tct cgc 1456
 Leu Gln Ser Ser Ser His Ser Cys Pro Ala His Leu Phe Val Ser Arg
 445 450 455 460

tgt gat aga tca ata aat att tta ttt ttt gtc ctg g 1493

Cys Asp Arg Ser Ile Asn Ile Leu Phe Phe Val Leu

465

470

<210> 212

<211> 472

<212> PRT

<213> Homo sapiens

<400> 212

Met Ala Gly Leu Thr Ala Ala Ala Pro Arg Pro Gly Val Leu Leu Leu

1

5

10

15

Leu Leu Ser Ile Leu His Pro Ser Arg Pro Gly Gly Val Pro Gly Ala

20

25

30

Ile Pro Gly Gly Val Pro Gly Gly Val Phe Tyr Pro Gly Ala Gly Leu

35

40

45

Gly Ala Leu Gly Gly Gly Ala Leu Gly Pro Gly Gly Lys Pro Leu Lys

50

55

60

Pro Val Pro Gly Gly Leu Ala Gly Ala Gly Leu Gly Ala Gly Leu Gly

65

70

75

80

Ala Leu Gly Gly Val Gly Ile Pro Gly Gly Val Val Gly Ala Gly Pro

85

90

95

Ala Ala Ala Ala Ala Ala Ala Ala Lys Ala Ala Lys Tyr Gly Ala Ala

100

105

110

Ala Gly Leu Val Pro Gly Gly Pro Gly Phe Gly Pro Gly Val Val Gly

115

120

125

Val Pro Gly Ala Gly Val Pro Gly Val Gly Val Pro Gly Ala Gly Ile

130

135

140

Pro Val Val Pro Gly Ala Gly Ile Pro Gly Ala Ala Val Pro Gly Val

145

150

155

160

Val Ser Pro Glu Ala Ala Ala Lys Ala Ala Ala Lys Ala Ala Lys Tyr

165

170

175

Gly Ala Arg Pro Gly Val Gly Val Gly Gly Ile Pro Thr Tyr Gly Val

180

185

190

Gly Ala Gly Gly Phe Pro Gly Phe Gly Val Gly Val Gly Gly Ile Pro

195

200

205

Gly Val Ala Gly Val Pro Gly Val Gly Gly Val Pro Gly Val Gly Gly

210

215

220

Val Pro Gly Val Gly Ile Ser Pro Glu Ala Gln Ala Ala Ala Ala Ala

225

230

235

240

Lys Ala Ala Lys Tyr Gly Leu Val Pro Gly Val Gly Val Ala Pro Gly

245

250

255

Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly Leu Ala

260

265

270

Pro Gly Val Gly Val Ala Pro Gly Val Gly Val Ala Pro Gly Val Gly

275

280

285

Val Ala Pro Gly Ile Gly Pro Gly Gly Val Ala Ala Ala Ala Lys Ser

290

295

300

Ala Ala Lys Val Ala Ala Lys Ala Gln Leu Arg Ala Ala Ala Gly Leu

305

310

315

320

Gly Ala Gly Ile Pro Gly Leu Gly Val Gly Val Gly Val Pro Gly Leu

325

330

335

Gly Val Gly Thr Gly Val Pro Gly Leu Gly Val Gly Ala Gly Val Pro

340

345

350

Gly Phe Gly Ala Val Pro Gly Ala Leu Ala Ala Ala Lys Ala Ala Lys

355

360

365

Tyr Gly Ala Ala Val Pro Gly Val Leu Gly Gly Leu Gly Ala Leu Gly

370

375

380

Gly Val Gly Ile Asn Leu Val Asp Leu Ser Trp Pro Pro Val Pro Cys

385

390

395

400

Leu His Pro His Pro Ile Leu Pro Gln Gly Val Arg Gly Cys Ala Asp

405

410

415

Trp Gly Ala Arg His Leu Leu Pro Thr Arg Gly Val Pro Thr Cys Ser

420

425

430

Thr Val Tyr Pro Pro Ser Leu Pro Arg Ser Thr Glu Leu Gln Ser Ser

435

440

445

Ser His Ser Cys Pro Ala His Leu Phe Val Ser Arg Cys Asp Arg Ser

450

455

460

Ile Asn Ile Leu Phe Phe Val Leu

465

470

<210> 213

<211> 1557

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (137)..(595)

<400> 213

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tgctgccggc tgcgcc atg gcg ttg gcg ttg gcg gcg ctg gcg gcg gtc gag 172

Met Ala Leu Ala Leu Ala Ala Leu Ala Ala Val Glu

1

5

10

ccg gcc tgc ggc agc cgg tac cag cag ttg cag aat gaa gaa gag tct 220

Pro Ala Cys Gly Ser Arg Tyr Gln Gln Leu Gln Asn Glu Glu Glu Ser

15

20

25

gga gaa cct gaa cag gct gca ggt gat gct cct cca cct tac agc agc 268

Gly Glu Pro Glu Gln Ala Ala Gly Asp Ala Pro Pro Pro Tyr Ser Ser

30

35

40

att tct gca gag agc gca gca tat ttt gac tac aag gat gag tct ggg 316

Ile Ser Ala Glu Ser Ala Ala Tyr Phe Asp Tyr Lys Asp Glu Ser Gly

45

50

55

60

ttt cca aag ccc cca tct tac aat gta gct aca aca ctg ccc agt tgt 364

Phe Pro Lys Pro Pro Ser Tyr Asn Val Ala Thr Thr Leu Pro Ser Cys

65

70

75

ttt tat gat atc agc cat ttg att ttt ttc att ttc tat tta aga aat 412

Phe Tyr Asp Ile Ser His Leu Ile Phe Phe Ile Phe Tyr Leu Arg Asn

80

85

90

atg aag aaa aaa tac acc aag atg gtc aaa tta cta cac aaa tca gca 460

Met Lys Lys Lys Tyr Thr Lys Met Val Lys Leu Leu His Lys Ser Ala

95

100

105

cca gca cag tct gat agc tgc aaa tgt cca ttc atc tgc tgt gta tgt 508

Pro Ala Gln Ser Asp Ser Cys Lys Cys Pro Phe Ile Cys Cys Val Cys

110	115	120	
ata tcc aga atc agc ata gga agt cgt tca gga tat cag tat ata atg 556			
Ile Ser Arg Ile Ser Ile Gly Ser Arg Ser Gly Tyr Gln Tyr Ile Met			
125	130	135	140

cac aga agt gtg ggt tgt ttg aaa gcc aaa cag gaa aat taggagcctc 605	
His Arg Ser Val Gly Cys Leu Lys Ala Lys Gln Glu Asn	
145	150

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aatgttcacg ctgcattaat tgcattttt ctctcccatg ttctttctca ctttgatacg 1265

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aggacgacta ggattcaccc ataacgacac agtgccttat gtttcttaac ttcttggtgc 1445

catttgaagc tctgtactct tatgtttaaa gggttttgta tagccatttt ttttttcaga 1505

aagttacatt gctttgtata gaaataaaag gcattattaa aatttgcttg tt 1557

<210> 214

<211> 153

<212> PRT

<213> Homo sapiens

<400> 214

Met Ala Leu Ala Leu Ala Ala Leu Ala Ala Val Glu Pro Ala Cys Gly

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5

10

15

Ser Arg Tyr Gln Gln Leu Gln Asn Glu Glu Glu Ser Gly Glu Pro Glu

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25

30

Gln Ala Ala Gly Asp Ala Pro Pro Pro Tyr Ser Ser Ile Ser Ala Glu

35

40

45

Ser Ala Ala Tyr Phe Asp Tyr Lys Asp Glu Ser Gly Phe Pro Lys Pro
50 55 60

Pro Ser Tyr Asn Val Ala Thr Thr Leu Pro Ser Cys Phe Tyr Asp Ile
65 70 75 80

Ser His Leu Ile Phe Phe Ile Phe Tyr Leu Arg Asn Met Lys Lys Lys
85 90 95

Tyr Thr Lys Met Val Lys Leu Leu His Lys Ser Ala Pro Ala Gln Ser
100 105 110

Asp Ser Cys Lys Cys Pro Phe Ile Cys Cys Val Cys Ile Ser Arg Ile
115 120 125

Ser Ile Gly Ser Arg Ser Gly Tyr Gln Tyr Ile Met His Arg Ser Val
130 135 140

Gly Cys Leu Lys Ala Lys Gln Glu Asn
145 150

<210> 215

<211> 3555

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (271)..(1998)

<400> 215

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tgccccagga ggatgagcat ttgcattgcc tgcaccttat cgtgcccttc cacctgctga 180

agcagctgtg cctgccgctc ttgtgaactg cgaacttccc ctacctcct ctctctggct 240

cgggagctgg ctcgccgcc tgtcagtga atg ctg ccc cat gtg gtg ctc acc 294

Met Leu Pro His Val Val Leu Thr

1

5

ttc cgg cgc ctg ggc tgc gcc ttg gcg tcc tgc cgg ctg gcg cct gcg 342

Phe Arg Arg Leu Gly Cys Ala Leu Ala Ser Cys Arg Leu Ala Pro Ala

10

15

20

aga cac aga gga agt ggt ctt ctg cac aca gcc cca gtg gcc cgc tcg 390

Arg His Arg Gly Ser Gly Leu Leu His Thr Ala Pro Val Ala Arg Ser

25

30

35

40

gac agg agc gcc ccg gtg ttc acc cgt gcc ctg gcc ttt ggg gac aga 438

Asp Arg Ser Ala Pro Val Phe Thr Arg Ala Leu Ala Phe Gly Asp Arg

45

50

55

atc gcc ctg gtt gac cag cac ggc cgc cac acg tac agg gag ctt tat 486

Ile Ala Leu Val Asp Gln His Gly Arg His Thr Tyr Arg Glu Leu Tyr

60

65

70

tcc cgc agc ctt cgc ctg tcc cag gag atc tgc agg ctc tgc ggg tgt 534

Ser Arg Ser Leu Arg Leu Ser Gln Glu Ile Cys Arg Leu Cys Gly Cys

75

80

85

gtc ggc ggg gac ctc cgg gag gag agg gtc tcc ttc cta tgc gct aac 582

Val Gly Gly Asp Leu Arg Glu Glu Arg Val Ser Phe Leu Cys Ala Asn

90

95

100

gat gcc tcc tac gtc gtg gcc cag tgg gcg tca tgg atg agt ggc ggt 630

Asp Ala Ser Tyr Val Val Ala Gln Trp Ala Ser Trp Met Ser Gly Gly

105

110

115

120

gtg gca gtc ccc ctc tac agg aag cat ccc gcg gcc cag ctg gag tat 678

Val Ala Val Pro Leu Tyr Arg Lys His Pro Ala Ala Gln Leu Glu Tyr

125

130

135

gtc atc tgc gac tcc cag agc tct gtg gtc ctt gcc agc cag gag tac 726

Val Ile Cys Asp Ser Gln Ser Ser Val Val Leu Ala Ser Gln Glu Tyr

140

145

150

ctg gag ctc ctg agc ccg gtg gtc agg aag ctg ggg gtc ccg ctg ctg 774

Leu Glu Leu Leu Ser Pro Val Val Arg Lys Leu Gly Val Pro Leu Leu

155

160

165

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Pro Leu Thr Pro Ala Ile Tyr Thr Gly Ala Val Glu Glu Pro Ala Glu

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Val Pro Val Pro Glu Gln Gly Trp Arg Asn Lys Gly Ala Met Ile Ile

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Tyr Thr Ser Gly Thr Thr Gly Arg Pro Lys Gly Val Leu Ser Thr His

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caa aac atc agg gct gtg gtg acc ggg ctg gtc cac aag tgg gca tgg 966

Gln Asn Ile Arg Ala Val Val Thr Gly Leu Val His Lys Trp Ala Trp

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acc aaa gac gac gtg atc ctc cac gtg ctc ccg ctg cac cac gtc cat 1014

Thr Lys Asp Asp Val Ile Leu His Val Leu Pro Leu His His Val His

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Gly Val Val Asn Ala Leu Leu Cys Pro Leu Trp Val Gly Ala Thr Cys

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Val Met Met Pro Glu Phe Ser Pro Gln Gln Val Trp Glu Glu Phe Leu

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Asn Ile Thr Gly His Thr Leu Leu Glu Arg Tyr Gly Met Thr Glu Ile
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Gly Met Ala Leu Ser Gly Pro Leu Thr Thr Ala Val Arg Leu Pro Gly
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tcc gtg ggg acc cca ctg cct gga gta cag gtg cgc att gtc tca gaa 1446
Ser Val Gly Thr Pro Leu Pro Gly Val Gln Val Arg Ile Val Ser Glu
380 385 390

aac cca cag agg gaa gcc tgc tcc tac acc atc cac gca gag gga gac 1494
Asn Pro Gln Arg Glu Ala Cys Ser Tyr Thr Ile His Ala Glu Gly Asp
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gag agg ggg acc aag gtg acc cca ggg ttt gaa gaa aag gag ggg gag 1542

Glu Arg Gly Thr Lys Val Thr Pro Gly Phe Glu Glu Lys Glu Gly Glu

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Leu Leu Val Arg Gly Pro Ser Val Phe Arg Glu Tyr Trp Asn Lys Pro

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Ser Val Asp Ile Ile Lys Thr Gly Gly Tyr Lys Val Ser Ala Leu Glu

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ctc atc agg cac ttc cac ccc tca tgaccggct gactgggact gcgggtctgg 2028

Leu Ile Arg His Phe His Pro Ser

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30

His Thr Ala Pro Val Ala Arg Ser Asp Arg Ser Ala Pro Val Phe Thr

35

40

45

Arg Ala Leu Ala Phe Gly Asp Arg Ile Ala Leu Val Asp Gln His Gly

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55

60

Arg His Thr Tyr Arg Glu Leu Tyr Ser Arg Ser Leu Arg Leu Ser Gln

65

70

75

80

Glu Ile Cys Arg Leu Cys Gly Cys Val Gly Gly Asp Leu Arg Glu Glu

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90

95

Arg Val Ser Phe Leu Cys Ala Asn Asp Ala Ser Tyr Val Val Ala Gln

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105

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Trp Ala Ser Trp Met Ser Gly Gly Val Ala Val Pro Leu Tyr Arg Lys

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120

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His Pro Ala Ala Gln Leu Glu Tyr Val Ile Cys Asp Ser Gln Ser Ser

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Val Val Leu Ala Ser Gln Glu Tyr Leu Glu Leu Leu Ser Pro Val Val

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155

160

Arg Lys Leu Gly Val Pro Leu Leu Pro Leu Thr Pro Ala Ile Tyr Thr

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175

Gly Ala Val Glu Glu Pro Ala Glu Val Pro Val Pro Glu Gln Gly Trp

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190

Arg Asn Lys Gly Ala Met Ile Ile Tyr Thr Ser Gly Thr Thr Gly Arg

195

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205

Pro Lys Gly Val Leu Ser Thr His Gln Asn Ile Arg Ala Val Val Thr

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215

220

Gly Leu Val His Lys Trp Ala Trp Thr Lys Asp Asp Val Ile Leu His

225 230 235 240

Val Leu Pro Leu His His Val His Gly Val Val Asn Ala Leu Leu Cys

245 250 255

Pro Leu Trp Val Gly Ala Thr Cys Val Met Met Pro Glu Phe Ser Pro

260 265 270

Gln Gln Val Trp Glu Glu Phe Leu Ser Ser Glu Thr Pro Arg Ile Asn

275 280 285

Val Phe Met Ala Val Pro Thr Ile Tyr Thr Lys Leu Met Glu Tyr Tyr

290 295 300

Asp Arg His Phe Thr Gln Pro His Ala Gln Asp Phe Leu Arg Ala Val

305 310 315 320

Cys Glu Glu Lys Ile Arg Leu Met Val Ser Gly Ser Ala Ala Leu Pro

325 330 335

Leu Pro Val Leu Glu Lys Trp Lys Asn Ile Thr Gly His Thr Leu Leu

340 345 350

Glu Arg Tyr Gly Met Thr Glu Ile Gly Met Ala Leu Ser Gly Pro Leu

355 360 365

Thr Thr Ala Val Arg Leu Pro Gly Ser Val Gly Thr Pro Leu Pro Gly

370 375 380

Val Gln Val Arg Ile Val Ser Glu Asn Pro Gln Arg Glu Ala Cys Ser
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Tyr Thr Ile His Ala Glu Gly Asp Glu Arg Gly Thr Lys Val Thr Pro
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Gly Phe Glu Glu Lys Glu Gly Glu Leu Leu Val Arg Gly Pro Ser Val
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465 470 475 480

Gly Tyr Lys Val Ser Ala Leu Glu Val Glu Trp His Leu Leu Ala His
485 490 495

Pro Ser Ile Thr Asp Val Ala Val Ile Gly Val Pro Asp Met Thr Trp
500 505 510

Gly Gln Arg Val Thr Ala Val Val Thr Leu Arg Glu Gly His Ser Leu
515 520 525

Ser His Arg Glu Leu Lys Glu Trp Ala Arg Asn Val Leu Ala Pro Tyr
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Met Gly Gly Pro Arg Gly Ala Gly Trp Val Ala Ala

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Arg Gly Arg Arg Arg Gly Asp Arg Glu Leu Gly Ile Arg Ser Ser Lys

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Ser Ala Gly Ala Leu Glu Glu Gly Thr Ser Glu Gly Gln Leu Cys Gly

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cgc tcg gcc cgg cct cag acg gga ggt acc tgg gag tca cag tgg tcc 361

Arg Ser Ala Arg Pro Gln Thr Gly Gly Thr Trp Glu Ser Gln Trp Ser

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Lys Thr Ser Gln Pro Glu Asp Leu Thr Asp Gly Ser Tyr Asp Asp Val

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Leu Asn Ala Glu Gln Leu Gln Lys Leu Leu Tyr Leu Leu Glu Ser Thr

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aaa gct tta aat gca cta aat aac ctg agt gtg aat gtt gaa aat caa 649
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aac atg act gtt acc aat gac cac cag cac atg ctt cac agt tac att 793
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aca gac ctg ttc cag gtg tta ctt act gga aat gga aac acg aag gtg 841
Thr Asp Leu Phe Gln Val Leu Leu Thr Gly Asn Gly Asn Thr Lys Val

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caa gtt ttg aaa ctg ctt ttg aat ttg tct gaa aat cca gcc atg aca 889
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cag aat ata aag aac tgc ctc aaa ata gaa ggc cat tta gct gtg cag 1033

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Cys Ala Gln Lys Ile Arg Ala Leu Val Asp His His Asp Ala Glu Val

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Leu Glu Glu Gly Thr Ser Glu Gly Gln Leu Cys Gly Arg Ser Ala Arg

50 55 60

Pro Gln Thr Gly Gly Thr Trp Glu Ser Gln Trp Ser Lys Thr Ser Gln

65 70 75 80

Pro Glu Asp Leu Thr Asp Gly Ser Tyr Asp Asp Val Leu Asn Ala Glu

85 90 95

Gln Leu Gln Lys Leu Leu Tyr Leu Leu Glu Ser Thr Glu Asp Pro Val

100 105 110

Ile Ile Glu Arg Ala Leu Ile Thr Leu Gly Asn Asn Ala Ala Phe Ser

115 120 125

Val Asn Gln Ala Ile Ile Arg Glu Leu Gly Gly Ile Pro Ile Val Ala

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Asn Lys Ile Asn His Ser Asn Gln Ser Ile Lys Glu Lys Ala Leu Asn

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Ala Leu Asn Asn Leu Ser Val Asn Val Glu Asn Gln Ile Lys Ile Lys

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Ile Tyr Ile Ser Gln Val Cys Glu Asp Val Phe Ser Gly Pro Leu Asn

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Ser Ala Val Gln Leu Ala Gly Leu Thr Leu Leu Thr Asn Met Thr Val

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Leu Leu Leu Asn Leu Ser Glu Asn Pro Ala Met Thr Glu Gly Leu Leu

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Arg Ala Gln Val Asp Ser Ser Phe Leu Ser Leu Tyr Asp Ser His Val

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Ala Lys Glu Ile Leu Leu Arg Val Leu Thr Leu Phe Gln Asn Ile Lys

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280

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Asn Cys Leu Lys Ile Glu Gly His Leu Ala Val Gln Pro Thr Phe Thr

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Glu Gly Ser Leu Phe Phe Leu Leu His Gly Glu Glu Cys Ala Gln Lys

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Ser Met Gly Pro Gln Pro Thr Thr Leu Gly Gly Pro Ser Pro Pro Thr

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Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly Ser Leu

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Cys Ala Cys Ser Ser Val His Pro Ser Val

275

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ccaggttcaa gcgattctcc cgcctcagta gctgggatta caggtgccca ccactgcgcc 1882

cagctaaatt ttgtattttt agtagagatg gggcttcacc atgttgcca ggctggctctg 1942

gaactcctga ccttcagggt atccacctgc ctctgcctcc caaggctgtg ggattacagg 2002

cgtgagccac cgtgcccgcc ccaaactact ttttaaaca gctacagggt aaaatcctgc 2062

agcaccact ctggaaaata ctgctcttaa ttttctgaa ggtggcccc tgtttctagt 2122

tggtccagga ttaggatgt ggggtatagg gcatttaa cctctcaagc gctctccaag 2182

cacccccggc ctgggggtga gtttctcatc ccgctactgc tgctgggatc aggttgaatg 2242

aatggaactc ttctgtctg gcctccaaag cagcctagaa gctgaggggc tgtgtttgag 2302

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atattcgtca gtcctcgaca gggagcctgg gctccgtcct gctttaggga ggctctggca 2482

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<211> 283

<212> PRT

<213> Homo sapiens

<400> 220

Met Val Ser Ala Ala Ala Pro Ser Leu Leu Ile Leu Leu Leu Leu Leu

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Leu Gly Ser Val Pro Ala Thr Asp Ala Arg Ser Val Pro Leu Lys Ala

20 25 30

Thr Phe Leu Glu Asp Val Ala Gly Ser Gly Glu Ala Glu Gly Ser Ser

35 40 45

Ala Ser Ser Pro Ser Leu Pro Pro Pro Trp Thr Pro Ala Leu Ser Pro

50 55 60

Thr Ser Met Gly Pro Gln Pro Thr Thr Leu Gly Gly Pro Ser Pro Pro
65 70 75 80

Thr Asn Phe Leu Asp Gly Ile Val Asp Phe Phe Arg Gln Tyr Val Met
85 90 95

Leu Ile Ala Val Val Gly Ser Leu Ala Phe Leu Leu Met Phe Ile Val
100 105 110

Cys Ala Ala Val Ile Thr Arg Gln Lys Gln Lys Ala Ser Ala Tyr Tyr
115 120 125

Pro Ser Ser Phe Pro Lys Lys Lys Tyr Val Asp Gln Ser Asp Arg Ala
130 135 140

Gly Gly Pro Arg Ala Phe Ser Glu Val Pro Asp Arg Ala Pro Asp Ser
145 150 155 160

Arg Pro Glu Glu Ala Leu Asp Ser Ser Arg Gln Leu Gln Ala Asp Ile
165 170 175

Leu Ala Ala Thr Gln Asn Leu Lys Ser Pro Thr Arg Ala Ala Leu Gly
180 185 190

Gly Gly Asp Gly Ala Arg Met Val Glu Gly Arg Gly Ala Glu Glu Glu
195 200 205

Glu Lys Gly Ser Gln Glu Gly Asp Gln Glu Val Gln Gly His Gly Val
210 215 220

Pro Val Glu Thr Pro Glu Ala Gln Glu Glu Pro Cys Ser Gly Val Leu
225 230 235 240

Glu Gly Ala Val Val Ala Gly Glu Gly Gln Gly Glu Leu Glu Gly Ser
245 250 255

Leu Leu Leu Ala Gln Gly Ala Gln Gly Pro Val Gly Pro Pro Glu Ser
260 265 270

Pro Cys Ala Cys Ser Ser Val His Pro Ser Val
275 280

<210> 221
<211> 1548
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<222> (20)..(1348)

<400> 221
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Cys Ala Ala Ala Ala Ala Ala Ala Ala Pro Pro Gly Leu Arg Leu Arg

15

20

25

ctt ctg ctg ttg ctc ttc tcc gcc gcg gca ctg atc ccc aca ggt gat 148

Leu Leu Leu Leu Leu Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp

30

35

40

ggg cag aat ctg ttt acg aaa gac gtg aca gtg atc gag gga gag gtt 196

Gly Gln Asn Leu Phe Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val

45

50

55

gcg acc atc agt tgc caa gtc aat aag agt gac gac tct gtg att cag 244

Ala Thr Ile Ser Cys Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln

60

65

70

75

cta ctg aat ccc aac agg cag acc att tat ttc agg gac ttc agg cct 292

Leu Leu Asn Pro Asn Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro

80

85

90

ttg aag gac agc agg ttt cag ttg ctg aat ttt tct agc agt gaa ctc 340

Leu Lys Asp Ser Arg Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu

95

100

105

aaa gta tca ttg aca aac gtc tca att tct gat gaa gga aga tac ttt 388

Lys Val Ser Leu Thr Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr Phe

110

115

120

tgc cag ctc tat acc gat ccc cca cag gaa agt tac acc acc atc aca 436

Cys Gln Leu Tyr Thr Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr

125

130

135

gtc ctg gtc cca cca cgt aat ctg atg atc gat atc cag aaa gac act 484

Val Leu Val Pro Pro Arg Asn Leu Met Ile Asp Ile Gln Lys Asp Thr

140

145

150

155

gcg gtg gaa ggt gag gag att gaa gtc aac tgc act gct atg gcc agc 532

Ala Val Glu Gly Glu Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser

160

165

170

aag cca gcc acg act atc agg tgg ttc aaa ggg aac aca gag cta aaa 580

Lys Pro Ala Thr Thr Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys

175

180

185

ggc aaa tcg gag gtg gaa gag tgg tca gac atg tac act gtg acc agt 628

Gly Lys Ser Glu Val Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser

190

195

200

cag ctg atg ctg aag gtg cac aag gag gac gat ggg gtc cca gtg atc 676

Gln Leu Met Leu Lys Val His Lys Glu Asp Asp Gly Val Pro Val Ile

205

210

215

tgc cag gtg gag cac cct gcg gtc act gga aac ctg cag acc cag cgg 724

Cys Gln Val Glu His Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg

220

225

230

235

tat cta gaa gta cag tat aag cct caa gtg cac att cag atg act tat 772

Tyr Leu Glu Val Gln Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr

240

245

250

cct cta caa ggc tta acc cgg gaa ggg gac gcg ctt gag tta aca tgt 820

Pro Leu Gln Gly Leu Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys

255

260

265

gaa gcc atc ggg aag ccc cag cct gtg atg gta act tgg gtg aga gtc 868

Glu Ala Ile Gly Lys Pro Gln Pro Val Met Val Thr Trp Val Arg Val

270

275

280

gat gat gaa atg cct caa cac gcc gta ctg tct ggg ccc aac ctg ttc 916

Asp Asp Glu Met Pro Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe

285

290

295

atc aat aac cta aac aaa aca gat aat ggt aca tac cgc tgt gaa gct 964

Ile Asn Asn Leu Asn Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala

300

305

310

315

tca aac ata gtg ggg aaa gct cac tcg gat tat atg ctg tat gta tac 1012

Ser Asn Ile Val Gly Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr

320

325

330

gac aca acg gcg acg aca gaa cca gca gtt cac ggc ctt act cag ttg 1060

Asp Thr Thr Ala Thr Thr Glu Pro Ala Val His Gly Leu Thr Gln Leu

335

340

345

ccc aat tcc gca gaa gaa ctg gac agt gag gac ctc tca gat tcc cga 1108

Pro Asn Ser Ala Glu Glu Leu Asp Ser Glu Asp Leu Ser Asp Ser Arg

350

355

360

gca ggt gaa gaa ggc tcg atc agg gca gtg gat cat gcc gtg atc ggt 1156
Ala Gly Glu Glu Gly Ser Ile Arg Ala Val Asp His Ala Val Ile Gly

365

370

375

ggc gtc gtg gcg gtg gtg gtg ttc gcc atg ctg tgc ttg ctc atc att 1204
Gly Val Val Ala Val Val Val Phe Ala Met Leu Cys Leu Leu Ile Ile

380

385

390

395

ctg ggg cgc tat ttt gcc aga cat aaa ggt aca tac ttc act cat gaa 1252
Leu Gly Arg Tyr Phe Ala Arg His Lys Gly Thr Tyr Phe Thr His Glu

400

405

410

gcc aaa gga gcc gat gac gca gca gac gca gac aca gct ata atc aat 1300
Ala Lys Gly Ala Asp Asp Ala Ala Asp Ala Asp Thr Ala Ile Ile Asn

415

420

425

gca gaa gga gga cag aac aac tcc gaa gaa aag aaa gag tac ttc atc 1348
Ala Glu Gly Gly Gln Asn Asn Ser Glu Glu Lys Lys Glu Tyr Phe Ile

430

435

440

tagatcagcc tttttgtttc aatgaggtgt ccaactggcc ctatttagat gataaagaga 1408

cagtgatatt ggaacttgcg agaaattcgt gtgttttttt atgaatgggt ggaaaggtgt 1468

gagactggga aggcttggga ttgtctgtgt aaaaaaaaaa aaaatgttct ttggaaagta 1528

cactctgctg tttagacacct 1548

<210> 222

<211> 443

<212> PRT

<213> Homo sapiens

<400> 222

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Ala Ala Ala Ala Pro Pro Gly Leu Arg Leu Arg Leu Leu Leu Leu

20 25 30

Phe Ser Ala Ala Ala Leu Ile Pro Thr Gly Asp Gly Gln Asn Leu Phe

35 40 45

Thr Lys Asp Val Thr Val Ile Glu Gly Glu Val Ala Thr Ile Ser Cys

50 55 60

Gln Val Asn Lys Ser Asp Asp Ser Val Ile Gln Leu Leu Asn Pro Asn

65 70 75 80

Arg Gln Thr Ile Tyr Phe Arg Asp Phe Arg Pro Leu Lys Asp Ser Arg

85 90 95

Phe Gln Leu Leu Asn Phe Ser Ser Ser Glu Leu Lys Val Ser Leu Thr

100 105 110

Asn Val Ser Ile Ser Asp Glu Gly Arg Tyr Phe Cys Gln Leu Tyr Thr

115 120 125

Asp Pro Pro Gln Glu Ser Tyr Thr Thr Ile Thr Val Leu Val Pro Pro
130 135 140

Arg Asn Leu Met Ile Asp Ile Gln Lys Asp Thr Ala Val Glu Gly Glu
145 150 155 160

Glu Ile Glu Val Asn Cys Thr Ala Met Ala Ser Lys Pro Ala Thr Thr
165 170 175

Ile Arg Trp Phe Lys Gly Asn Thr Glu Leu Lys Gly Lys Ser Glu Val
180 185 190

Glu Glu Trp Ser Asp Met Tyr Thr Val Thr Ser Gln Leu Met Leu Lys
195 200 205

Val His Lys Glu Asp Asp Gly Val Pro Val Ile Cys Gln Val Glu His
210 215 220

Pro Ala Val Thr Gly Asn Leu Gln Thr Gln Arg Tyr Leu Glu Val Gln
225 230 235 240

Tyr Lys Pro Gln Val His Ile Gln Met Thr Tyr Pro Leu Gln Gly Leu
245 250 255

Thr Arg Glu Gly Asp Ala Leu Glu Leu Thr Cys Glu Ala Ile Gly Lys
260 265 270

Pro Gln Pro Val Met Val Thr Trp Val Arg Val Asp Asp Glu Met Pro

275

280

285

Gln His Ala Val Leu Ser Gly Pro Asn Leu Phe Ile Asn Asn Leu Asn

290

295

300

Lys Thr Asp Asn Gly Thr Tyr Arg Cys Glu Ala Ser Asn Ile Val Gly

305

310

315

320

Lys Ala His Ser Asp Tyr Met Leu Tyr Val Tyr Asp Thr Thr Ala Thr

325

330

335

Thr Glu Pro Ala Val His Gly Leu Thr Gln Leu Pro Asn Ser Ala Glu

340

345

350

Glu Leu Asp Ser Glu Asp Leu Ser Asp Ser Arg Ala Gly Glu Glu Gly

355

360

365

Ser Ile Arg Ala Val Asp His Ala Val Ile Gly Gly Val Val Ala Val

370

375

380

Val Val Phe Ala Met Leu Cys Leu Leu Ile Ile Leu Gly Arg Tyr Phe

385

390

395

400

Ala Arg His Lys Gly Thr Tyr Phe Thr His Glu Ala Lys Gly Ala Asp

405

410

415

Asp Ala Ala Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu Gly Gly Gln

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425

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Asn Asn Ser Glu Glu Lys Lys Glu Tyr Phe Ile

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<210> 223

<211> 1457

<212> DNA

<213> Homo sapiens

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<222> (14)..(982)

<400> 223

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caa ctg ggg ctc ccg ccg ctg ctg ctg ctg acc atg gcc ttg gcc gga 97

Gln Leu Gly Leu Pro Pro Leu Leu Leu Leu Thr Met Ala Leu Ala Gly

15

20

25

ggt tcg ggg acc gct tcg gct gaa gca ttt gac tcg gtc ttg ggt gat 145

Gly Ser Gly Thr Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp

30

35

40

acg gcg tct tgc cac cgg gcc tgt cag ttg acc tac ccc ttg cac acc 193

Thr Ala Ser Cys His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr

45

50

55

60

tac cct aag gaa gag gag ttg tac gca tgt cag aga ggt tgc agg ctg 241

Tyr Pro Lys Glu Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg Leu

65

70

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ttt tca att tgt cag ttt gtg gat gat gga att gac tta aat cga act 289

Phe Ser Ile Cys Gln Phe Val Asp Asp Gly Ile Asp Leu Asn Arg Thr

80

85

90

aaa ttg gaa tgt gaa tct gca tgt aca gaa gca tat tcc caa tct gat 337

Lys Leu Glu Cys Glu Ser Ala Cys Thr Glu Ala Tyr Ser Gln Ser Asp

95

100

105

gag caa tat gct tgc cat ctt ggt tgc cag aat cag ctg cca ttc gct 385

Glu Gln Tyr Ala Cys His Leu Gly Cys Gln Asn Gln Leu Pro Phe Ala

110

115

120

gaa ctg aga caa gaa caa ctt atg tcc ctg atg cca aaa atg cac cta 433

Glu Leu Arg Gln Glu Gln Leu Met Ser Leu Met Pro Lys Met His Leu

125

130

135

140

ctc ttt cct cta act ctg gtg agg tca ttc tgg agt gac atg atg gac 481

Leu Phe Pro Leu Thr Leu Val Arg Ser Phe Trp Ser Asp Met Met Asp

145

150

155

tcc gca cag agc ttc ata acc tct tca tgg act ttt tat ctt caa gcc 529

Ser Ala Gln Ser Phe Ile Thr Ser Ser Trp Thr Phe Tyr Leu Gln Ala

160

165

170

gat gac gga aaa ata gtt ata ttc cag tct aag cca gaa atc cag tac 577
 Asp Asp Gly Lys Ile Val Ile Phe Gln Ser Lys Pro Glu Ile Gln Tyr
 175 180 185

gca cca cat ttg gag cag gag cct aca aat ttg aga gaa tca tct cta 625
 Ala Pro His Leu Glu Gln Glu Pro Thr Asn Leu Arg Glu Ser Ser Leu

190 195 200

agc aaa atg tcc tat ctg caa atg aga aat tca caa gcg cac agg aat 673
 Ser Lys Met Ser Tyr Leu Gln Met Arg Asn Ser Gln Ala His Arg Asn
 205 210 215 220

ttt ctt gaa gat gga gaa agt gat ggc ttt tta aga tgc ctc tct ctt 721
 Phe Leu Glu Asp Gly Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu
 225 230 235

aac tct ggg tgg att tta act aca act ctt gtc ctc tcg gtg atg gta 769
 Asn Ser Gly Trp Ile Leu Thr Thr Thr Leu Val Leu Ser Val Met Val
 240 245 250

ttg ctt tgg att tgt tgt gca act gtt gct aca gct gtg gag cag tat 817
 Leu Leu Trp Ile Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr
 255 260 265

gtt ccc tct gag aag ctg agt atc tat ggt gac ttg gag ttt atg aat 865
 Val Pro Ser Glu Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn
 270 275 280

gaa caa aag cta aac aga tat cca gct tct tct ctt gtg gtt gtt aga 913

Glu Gln Lys Leu Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg

285 290 295 300

tct aaa act gaa gat cat gaa gaa gca ggg cct cta cct aca aaa gtg 961

Ser Lys Thr Glu Asp His Glu Glu Ala Gly Pro Leu Pro Thr Lys Val

305 310 315

aat ctt gct cat tct gaa att taagcatttt tcttttaaaa gacaagtgt 1012

Asn Leu Ala His Ser Glu Ile

320

atagacatct aaaattccac tctcataga gcttttaaaa tggtttcatt ggatataggc 1072

cttaagaaat cactataaaa tgcaaataaa gttactcaaa tctgtgaaga ctgtatttgc 1132

tataacttta ttggtattgt tttttagta atttaagagg tggatgttg ggattgtatt 1192

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tttcttagct atgagctgat cattgctcct tctcacctcc tgccatgata ctgtcagta 1312

ccttagttaa caagctgaat atttagtaga aatgatgctt ctgctcagga atggcccaca 1372

aatctgtaat ttgaaattta gcaggaaatg acctttaatg acactacatt ttcaggaaact 1432

gaaatcatta aaattttatt tgaat 1457

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<211> 323

<212> PRT

<213> Homo sapiens

<400> 224

Met Ala Ala Pro Lys Gly Ser Leu Trp Val Arg Thr Gln Leu Gly Leu

1

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15

Pro Pro Leu Leu Leu Leu Thr Met Ala Leu Ala Gly Gly Ser Gly Thr

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25

30

Ala Ser Ala Glu Ala Phe Asp Ser Val Leu Gly Asp Thr Ala Ser Cys

35

40

45

His Arg Ala Cys Gln Leu Thr Tyr Pro Leu His Thr Tyr Pro Lys Glu

50

55

60

Glu Glu Leu Tyr Ala Cys Gln Arg Gly Cys Arg Leu Phe Ser Ile Cys

65

70

75

80

Gln Phe Val Asp Asp Gly Ile Asp Leu Asn Arg Thr Lys Leu Glu Cys

85

90

95

Glu Ser Ala Cys Thr Glu Ala Tyr Ser Gln Ser Asp Glu Gln Tyr Ala

100

105

110

Cys His Leu Gly Cys Gln Asn Gln Leu Pro Phe Ala Glu Leu Arg Gln

115

120

125

Glu Gln Leu Met Ser Leu Met Pro Lys Met His Leu Leu Phe Pro Leu

130

135

140

Thr Leu Val Arg Ser Phe Trp Ser Asp Met Met Asp Ser Ala Gln Ser

145

150

155

160

Phe Ile Thr Ser Ser Trp Thr Phe Tyr Leu Gln Ala Asp Asp Gly Lys

165

170

175

Ile Val Ile Phe Gln Ser Lys Pro Glu Ile Gln Tyr Ala Pro His Leu

180

185

190

Glu Gln Glu Pro Thr Asn Leu Arg Glu Ser Ser Leu Ser Lys Met Ser

195

200

205

Tyr Leu Gln Met Arg Asn Ser Gln Ala His Arg Asn Phe Leu Glu Asp

210

215

220

Gly Glu Ser Asp Gly Phe Leu Arg Cys Leu Ser Leu Asn Ser Gly Trp

225

230

235

240

Ile Leu Thr Thr Thr Leu Val Leu Ser Val Met Val Leu Leu Trp Ile

245

250

255

Cys Cys Ala Thr Val Ala Thr Ala Val Glu Gln Tyr Val Pro Ser Glu

260

265

270

Lys Leu Ser Ile Tyr Gly Asp Leu Glu Phe Met Asn Glu Gln Lys Leu

275

280

285

Asn Arg Tyr Pro Ala Ser Ser Leu Val Val Val Arg Ser Lys Thr Glu
 290 295 300

Asp His Glu Glu Ala Gly Pro Leu Pro Thr Lys Val Asn Leu Ala His
 305 310 315 320

Ser Glu Ile

<210> 225

<211> 1484

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (225)..(650)

<400> 225

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ggcaggcggc cactcccca gccagaagtc ttttttctt ttcttcttt ttattatttt 180

tttctttttt taaaaagttc tgaccgtggt ttcctggact cttc atg ggc ttt gct 236

Met Gly Phe Ala

tcc tac ctc ctt cac cct tca ctc ctg ccc tcc tct tcc tcc tcc tcc 284
 Ser Tyr Leu Leu His Pro Ser Leu Leu Pro Ser Ser Ser Ser Ser Ser
 5 10 15 20

tcc tcc tct gtc tgt ctc ctt tca cct ctg cgc cag gtc ggt cct ccc 332
 Ser Ser Ser Val Cys Leu Leu Ser Pro Leu Arg Gln Val Gly Pro Pro
 25 30 35

tgc caa cct tcc cca gct cca ata tgt agc agt ctc tct gga tgg cgg 380
 Cys Gln Pro Ser Pro Ala Pro Ile Cys Ser Ser Leu Ser Gly Trp Arg
 40 45 50

aga gtg aag gag acg gag aaa cgc gcc cca tcc ctt ccg ccg cct cct 428
 Arg Val Lys Glu Thr Glu Lys Arg Ala Pro Ser Leu Pro Pro Pro Pro
 55 60 65

ttc ccc ccc gac cct att cag gtt tta agt caa aaa tgt cga tat gtc 476
 Phe Pro Pro Asp Pro Ile Gln Val Leu Ser Gln Lys Cys Arg Tyr Val
 70 75 80

att atg cac ttt aca gat gag ggg agg ggc cgc agt gcg cag aac cca 524
 Ile Met His Phe Thr Asp Glu Gly Arg Gly Arg Ser Ala Gln Asn Pro
 85 90 95 100

ccc cac ccc cca gtg cag act tcg ggg tct cca ccc cag gcc agc agc 572
 Pro His Pro Pro Val Gln Thr Ser Gly Ser Pro Pro Gln Ala Ser Ser
 105 110 115

gcc cac tgg gct aca gca agc caa cag gtc aca gaa gcc aac gag ggg 620

Ala His Trp Ala Thr Ala Ser Gln Gln Val Thr Glu Ala Asn Glu Gly

120

125

130

act gtt tct ctt cca ctc cta tcc tct tct tgatcttttt tttgcattt 670

Thr Val Ser Leu Pro Leu Leu Ser Ser Ser

135

140

tccttcattt ctttaacaag gagagcaaag ctgttttagc agaggctggg gctgaggtcc 730

ccatgggggtt tgggtgcagg ggcatggcac cctttcctgt cggaaggga gaggggaact 790

acccccccag cctgcctcc gccccgcccc agccggcgga ctgtgctgtt tcctccgccc 850

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cgtgatttca agtaataaac agaaaatgaa acac 1484

<210> 226

<211> 142

<212> PRT

<213> Homo sapiens

<400> 226

Met Gly Phe Ala Ser Tyr Leu Leu His Pro Ser Leu Leu Pro Ser Ser

1 5 10 15

Ser Ser Ser Ser Ser Ser Ser Val Cys Leu Leu Ser Pro Leu Arg Gln

20 25 30

Val Gly Pro Pro Cys Gln Pro Ser Pro Ala Pro Ile Cys Ser Ser Leu

35 40 45

Ser Gly Trp Arg Arg Val Lys Glu Thr Glu Lys Arg Ala Pro Ser Leu

50 55 60

Pro Pro Pro Pro Phe Pro Pro Asp Pro Ile Gln Val Leu Ser Gln Lys

65 70 75 80

Cys Arg Tyr Val Ile Met His Phe Thr Asp Glu Gly Arg Gly Arg Ser

85

90

95

Ala Gln Asn Pro Pro His Pro Pro Val Gln Thr Ser Gly Ser Pro Pro

100

105

110

Gln Ala Ser Ser Ala His Trp Ala Thr Ala Ser Gln Gln Val Thr Glu

115

120

125

Ala Asn Glu Gly Thr Val Ser Leu Pro Leu Leu Ser Ser Ser

130

135

140

<210> 227

<211> 1656

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (26)..(1330)

<400> 227

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1

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Val Val Ala Val Thr Val Arg Ala Ala Leu Phe Arg Ser Ser Leu Ala
10 15 20 25

gag ttc att tcc gag cgg gtg gag gtg gtg tcc cca ctg agc tct tgg 148
Glu Phe Ile Ser Glu Arg Val Glu Val Val Ser Pro Leu Ser Ser Trp
30 35 40

aag aga gtg gtt gaa ggc ctt tca ctg ttg gac ttg gga gta tct ccg 196
Lys Arg Val Val Glu Gly Leu Ser Leu Leu Asp Leu Gly Val Ser Pro
45 50 55

tat tct gga gca gta ttt cat gaa act cca tta ata ata tac ctc ttt 244
Tyr Ser Gly Ala Val Phe His Glu Thr Pro Leu Ile Ile Tyr Leu Phe
60 65 70

cat ttc cta att gac tat gct gaa ttg gtg ttt atg ata act gat gca 292
His Phe Leu Ile Asp Tyr Ala Glu Leu Val Phe Met Ile Thr Asp Ala
75 80 85

ctc act gct att gcc ctg tat ttt gca atc cag gac ttc aat aaa gtt 340
Leu Thr Ala Ile Ala Leu Tyr Phe Ala Ile Gln Asp Phe Asn Lys Val
90 95 100 105

gtg ttt aaa aag cag aaa ctc ctc cta gaa ctg gac cag tat gcc cca 388
Val Phe Lys Lys Gln Lys Leu Leu Leu Glu Leu Asp Gln Tyr Ala Pro
110 115 120

gat gtg gcc gaa ctc atc cgg acc cct atg gaa atg cgt tac atc cct 436
Asp Val Ala Glu Leu Ile Arg Thr Pro Met Glu Met Arg Tyr Ile Pro

125	130	135	
ttg aaa gtg gcc ctg ttc tat ctc tta aat cct tac acg att ttg tct 484 Leu Lys Val Ala Leu Phe Tyr Leu Leu Asn Pro Tyr Thr Ile Leu Ser			
140	145	150	
tgt gtt gcc aag tct acc tgt gcc atc aac aac acc ctc att gct ttc 532 Cys Val Ala Lys Ser Thr Cys Ala Ile Asn Asn Thr Leu Ile Ala Phe			
155	160	165	
ttc att ttg act acg ata aaa ggc agt gct ttc ctc agt gct att ttt 580 Phe Ile Leu Thr Thr Ile Lys Gly Ser Ala Phe Leu Ser Ala Ile Phe			
170	175	180	185
ctt gcc tta gcg aca tac cag tct ctg tac cca ctc acc ttg ttt gtc 628 Leu Ala Leu Ala Thr Tyr Gln Ser Leu Tyr Pro Leu Thr Leu Phe Val			
190	195	200	
cca gga ctc ctc tat ctc ctc cag cgg cag tac ata cct gtg aaa atg 676 Pro Gly Leu Leu Tyr Leu Leu Gln Arg Gln Tyr Ile Pro Val Lys Met			
205	210	215	
aag agc aaa gcc ttc tgg atc ttt tct tgg gag tat gcc atg atg tat 724 Lys Ser Lys Ala Phe Trp Ile Phe Ser Trp Glu Tyr Ala Met Met Tyr			
220	225	230	
gtg gga agc cta gtg gta atc att tgc ctc tcc ttc ttc ctt ctc agc 772 Val Gly Ser Leu Val Val Ile Ile Cys Leu Ser Phe Phe Leu Leu Ser			
235	240	245	

tct tgg gat ttc atc ccc gca gtc tat ggc ttt ata ctt tct gtt cca 820

Ser Trp Asp Phe Ile Pro Ala Val Tyr Gly Phe Ile Leu Ser Val Pro

250 255 260 265

gat ctc act cca aac att ggt ctt ttc tgg tac ttc ttt gca gag atg 868

Asp Leu Thr Pro Asn Ile Gly Leu Phe Trp Tyr Phe Phe Ala Glu Met

270 275 280

ttt gag cac ttc agc ctc ttc ttt gta tgt gtg ttt cag atc aac gtc 916

Phe Glu His Phe Ser Leu Phe Phe Val Cys Val Phe Gln Ile Asn Val

285 290 295

ttc ttc tac acc atc ccc tta gcc ata aag cta aag gag cac ccc atc 964

Phe Phe Tyr Thr Ile Pro Leu Ala Ile Lys Leu Lys Glu His Pro Ile

300 305 310

ttc ttc atg ttt atc cag atc gct gtc atc gcc atc ttt aag tcc tac 1012

Phe Phe Met Phe Ile Gln Ile Ala Val Ile Ala Ile Phe Lys Ser Tyr

315 320 325

ccg aca gtg ggg gac gtg gcg ctc tac atg gcc ttc ttc ccc gtg tgg 1060

Pro Thr Val Gly Asp Val Ala Leu Tyr Met Ala Phe Phe Pro Val Trp

330 335 340 345

aac cat ctc tac aga ttc ctg aga aac atc ttt gtc ctc acc tgc atc 1108

Asn His Leu Tyr Arg Phe Leu Arg Asn Ile Phe Val Leu Thr Cys Ile

350 355 360

atc atc gtc tgt tcc ctg ctc ttc cct gtc ctg tgg cac ctc tgg att 1156
 Ile Ile Val Cys Ser Leu Leu Phe Pro Val Leu Trp His Leu Trp Ile
 365 370 375

tat gca gga agt gcc aac tct aat ttc ttt tat gcc atc aca ctg acc 1204
 Tyr Ala Gly Ser Ala Asn Ser Asn Phe Phe Tyr Ala Ile Thr Leu Thr
 380 385 390

ttc aac gtt ggg cag atc ctg ctc atc tct gat tac ttc aat gcc ttc 1252
 Phe Asn Val Gly Gln Ile Leu Leu Ile Ser Asp Tyr Phe Asn Ala Phe
 395 400 405

ctg cgg cgg gag tac tac ctc aca cat ggc ctc tac ttg acc gcc aag 1300
 Leu Arg Arg Glu Tyr Tyr Leu Thr His Gly Leu Tyr Leu Thr Ala Lys
 410 415 420 425

gat ggc aca gag gcc atg ctc gtg ctc aag taggcctggc tggcacagg 1350
 Asp Gly Thr Glu Ala Met Leu Val Leu Lys
 430 435

ctgcatggac ctcagggggc tgtggggcca gaagctgggc caagccctcc agccagagtt 1410

gccagcaggc gaggcttgg gcagaagagg ttcgagtcca gggtcacaag tctctggtac 1470

caaaaggac ccatggctga ctgacagcaa ggcctatggg gaagaactgg gagctcccca 1530

acttggaacc ccaccttggt gctctgcaca ccaaggagcc ccctcccaga caggaaggag 1590

aagaggcagg tgagcagggc ttgtagatt gtggctactt aataaatgtt ttttggtatg 1650

aagtct

1656

<210> 228

<211> 435

<212> PRT

<213> Homo sapiens

<400> 228

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Ala Ala Leu Phe Arg Ser Ser Leu Ala Glu Phe Ile Ser Glu Arg Val

20 25 30

Glu Val Val Ser Pro Leu Ser Ser Trp Lys Arg Val Val Glu Gly Leu

35 40 45

Ser Leu Leu Asp Leu Gly Val Ser Pro Tyr Ser Gly Ala Val Phe His

50 55 60

Glu Thr Pro Leu Ile Ile Tyr Leu Phe His Phe Leu Ile Asp Tyr Ala

65 70 75 80

Glu Leu Val Phe Met Ile Thr Asp Ala Leu Thr Ala Ile Ala Leu Tyr

85 90 95

Phe Ala Ile Gln Asp Phe Asn Lys Val Val Phe Lys Lys Gln Lys Leu

100

105

110

Leu Leu Glu Leu Asp Gln Tyr Ala Pro Asp Val Ala Glu Leu Ile Arg

115

120

125

Thr Pro Met Glu Met Arg Tyr Ile Pro Leu Lys Val Ala Leu Phe Tyr

130

135

140

Leu Leu Asn Pro Tyr Thr Ile Leu Ser Cys Val Ala Lys Ser Thr Cys

145

150

155

160

Ala Ile Asn Asn Thr Leu Ile Ala Phe Phe Ile Leu Thr Thr Ile Lys

165

170

175

Gly Ser Ala Phe Leu Ser Ala Ile Phe Leu Ala Leu Ala Thr Tyr Gln

180

185

190

Ser Leu Tyr Pro Leu Thr Leu Phe Val Pro Gly Leu Leu Tyr Leu Leu

195

200

205

Gln Arg Gln Tyr Ile Pro Val Lys Met Lys Ser Lys Ala Phe Trp Ile

210

215

220

Phe Ser Trp Glu Tyr Ala Met Met Tyr Val Gly Ser Leu Val Val Ile

225

230

235

240

Ile Cys Leu Ser Phe Phe Leu Leu Ser Ser Trp Asp Phe Ile Pro Ala

245

250

255

Val Tyr Gly Phe Ile Leu Ser Val Pro Asp Leu Thr Pro Asn Ile Gly
260 265 270

Leu Phe Trp Tyr Phe Phe Ala Glu Met Phe Glu His Phe Ser Leu Phe
275 280 285

Phe Val Cys Val Phe Gln Ile Asn Val Phe Phe Tyr Thr Ile Pro Leu
290 295 300

Ala Ile Lys Leu Lys Glu His Pro Ile Phe Phe Met Phe Ile Gln Ile
305 310 315 320

Ala Val Ile Ala Ile Phe Lys Ser Tyr Pro Thr Val Gly Asp Val Ala
325 330 335

Leu Tyr Met Ala Phe Phe Pro Val Trp Asn His Leu Tyr Arg Phe Leu
340 345 350

Arg Asn Ile Phe Val Leu Thr Cys Ile Ile Ile Val Cys Ser Leu Leu
355 360 365

Phe Pro Val Leu Trp His Leu Trp Ile Tyr Ala Gly Ser Ala Asn Ser
370 375 380

Asn Phe Phe Tyr Ala Ile Thr Leu Thr Phe Asn Val Gly Gln Ile Leu
385 390 395 400

Leu Ile Ser Asp Tyr Phe Asn Ala Phe Leu Arg Arg Glu Tyr Tyr Leu
405 410 415

Thr His Gly Leu Tyr Leu Thr Ala Lys Asp Gly Thr Glu Ala Met Leu

420

425

430

Val Leu Lys

435

<210> 229

<211> 1754

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (355)..(1140)

<400> 229

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tcgggattct aacattccct tctgtgacgg agagacagca ggccgggaca cgcattccag 180

gacggatcca cagctggatg gggaaggctg cgccaggcgg gccggaagcc tggcgtggc 240

gtgcaggagc cccgccctcc tgggctggat tcagccgggg gcggggccgc gggcggggcc 300

tgtggcagcg ggaatccga ccccgcccct ttcccaacc ctccatttct cgcc atg 357

Met

1

gcc cct gca ctg ctc ctg atc cct gct gcc ctc gcc cct ttc atc ctg 405

Ala Pro Ala Leu Leu Leu Ile Pro Ala Ala Leu Ala Pro Phe Ile Leu

5

10

15

gcc ttt ggc acc gga gtg gag ttc gtg cgc ttt acc tcc ctt cgg cca 453

Ala Phe Gly Thr Gly Val Glu Phe Val Arg Phe Thr Ser Leu Arg Pro

20

25

30

ctt ctt gga ggg atc ccg gag tct ggt ggt ccg gat gcc cgc cag gga 501

Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp Ala Arg Gln Gly

35

40

45

tgg ctg gct gcc ctg cag gac cgc agc atc ctt gcc ccc ctg gca tgg 549

Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu Ala Pro Leu Ala Trp

50

55

60

65

gat ctg ggg ctc ctg ctt cta ttt gtt ggg cag cac agc ctc atg gca 597

Asp Leu Gly Leu Leu Leu Leu Phe Val Gly Gln His Ser Leu Met Ala

70

75

80

gct gaa aga gtg aag gca tgg aca tcc cgg tac ttt ggg gtc ctt cag 645

Ala Glu Arg Val Lys Ala Trp Thr Ser Arg Tyr Phe Gly Val Leu Gln

85

90

95

agg tca ctg tat gtg gcc tgc act gcc ctg gcc ttg cag ctg gtg atg 693

Arg Ser Leu Tyr Val Ala Cys Thr Ala Leu Ala Leu Gln Leu Val Met

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cgg tac tgg gag ccc ata ccc aaa ggc cct gtg ttg tgg gag gct cgg	741		
Arg Tyr Trp Glu Pro Ile Pro Lys Gly Pro Val Leu Trp Glu Ala Arg			
115	120	125	
gct gag cca tgg gcc acc tgg gtg ccg ctc ctc tgc ttt gtg ctc cat	789		
Ala Glu Pro Trp Ala Thr Trp Val Pro Leu Leu Cys Phe Val Leu His			
130	135	140	145
gtc atc tcc tgg ctc ctc atc ttt agc atc ctt ctc gtc ttt gac tat	837		
Val Ile Ser Trp Leu Leu Ile Phe Ser Ile Leu Leu Val Phe Asp Tyr			
150	155	160	
gct gag ctc atg ggc ctc aaa cag gta tac tac cat gtg ctg ggg ctg	885		
Ala Glu Leu Met Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly Leu			
165	170	175	
ggc gag cct ctg gcc ctg aag tct ccc cgg gct ctc aga ctc ttc tcc	933		
Gly Glu Pro Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe Ser			
180	185	190	
cac ctg cgc cac cca gtg tgt gtg gag ctg ctg aca gtg ctg tgg gtg	981		
His Leu Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp Val			
195	200	205	
gtg cct acc ctg ggc acg gac cgt ctc ctc ctt gct ttc ctc ctt acc	1029		
Val Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu Thr			
210	215	220	225

ctc tac ctg ggc ctg gct cac ggg ctt gat cag caa gac ctc cgc tac 1077

Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg Tyr

230

235

240

ctc cgg gcc cag cta caa aga aaa ctc cac ctg ctc tct cgg ccc cag 1125

Leu Arg Ala Gln Leu Gln Arg Lys Leu His Leu Leu Ser Arg Pro Gln

245

250

255

gat ggg gag gca gag tgaggagctc actctgggta caagccctgt tcttcctctc 1180

Asp Gly Glu Ala Glu

260

ccactgaatt ctaaatacctt aacatccagg ccctggctgc ttcattgccag aggcccaaatt 1240

ccatggactg aaggagatgc cccttctact acttgagact ttattctctg ggtccagctc 1300

cataccctaa attctgagtt tcagccactg aactccaagg tccacttctc accagcaagg 1360

aagagtgggg tatggaagtc atctgtccct tcaactgttta gagcatgaca ctctccccct 1420

caacagcctc ctgagaagga aaggatctgc cctgaccact cccctggcac tggttacttgc 1480

ctctgcgcct caggggtccc ctctgcacc gctggcttcc actccaagaa ggtggaccag 1540

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cggccctagt ctctgcacct ccttaggccc tgcctctggg ctgagacccc aacctagtca 1660

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ctctgcagga aaataaaagt cagccttttt ctac 1754

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<211> 262

<212> PRT

<213> Homo sapiens

<400> 230

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20 25 30

Pro Leu Leu Gly Gly Ile Pro Glu Ser Gly Gly Pro Asp Ala Arg Gln

35 40 45

Gly Trp Leu Ala Ala Leu Gln Asp Arg Ser Ile Leu Ala Pro Leu Ala

50 55 60

Trp Asp Leu Gly Leu Leu Leu Leu Phe Val Gly Gln His Ser Leu Met

65 70 75 80

Ala Ala Glu Arg Val Lys Ala Trp Thr Ser Arg Tyr Phe Gly Val Leu

85 90 95

Gln Arg Ser Leu Tyr Val Ala Cys Thr Ala Leu Ala Leu Gln Leu Val

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105

110

Met Arg Tyr Trp Glu Pro Ile Pro Lys Gly Pro Val Leu Trp Glu Ala

115

120

125

Arg Ala Glu Pro Trp Ala Thr Trp Val Pro Leu Leu Cys Phe Val Leu

130

135

140

His Val Ile Ser Trp Leu Leu Ile Phe Ser Ile Leu Leu Val Phe Asp

145

150

155

160

Tyr Ala Glu Leu Met Gly Leu Lys Gln Val Tyr Tyr His Val Leu Gly

165

170

175

Leu Gly Glu Pro Leu Ala Leu Lys Ser Pro Arg Ala Leu Arg Leu Phe

180

185

190

Ser His Leu Arg His Pro Val Cys Val Glu Leu Leu Thr Val Leu Trp

195

200

205

Val Val Pro Thr Leu Gly Thr Asp Arg Leu Leu Leu Ala Phe Leu Leu

210

215

220

Thr Leu Tyr Leu Gly Leu Ala His Gly Leu Asp Gln Gln Asp Leu Arg

225

230

235

240

Tyr Leu Arg Ala Gln Leu Gln Arg Lys Leu His Leu Leu Ser Arg Pro

245

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Gln Asp Gly Glu Ala Glu

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<210> 231

<211> 2144

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (97)..(654)

<400> 231

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acagctctag gggttggcac cggccccgag aggagg atg cgg gtc cgg ata ggg 114

Met Arg Val Arg Ile Gly

1

5

ctg acg ctg ctg ctg tgt gcg gtg ctg ctg agc ttg gcc tcg gcg tcc 162

Leu Thr Leu Leu Leu Cys Ala Val Leu Leu Ser Leu Ala Ser Ala Ser

10

15

20

tcg gat gaa gaa ggc agc cag gat gaa tcc tta gat tcc aag act act 210

Ser Asp Glu Glu Gly Ser Gln Asp Glu Ser Leu Asp Ser Lys Thr Thr

25

30

35

ttg aca tca gat gag tca gta aag gac cat act act gca ggc aga gta 258

Leu Thr Ser Asp Glu Ser Val Lys Asp His Thr Thr Ala Gly Arg Val

40

45

50

gtt gct ggt caa ata ttt ctt gat tca gaa gaa tct gaa tta gaa tcc 306

Val Ala Gly Gln Ile Phe Leu Asp Ser Glu Glu Ser Glu Leu Glu Ser

55

60

65

70

tct att caa gaa gag gaa gac agc ctc aag agc caa gag ggg gaa agt 354

Ser Ile Gln Glu Glu Glu Asp Ser Leu Lys Ser Gln Glu Gly Glu Ser

75

80

85

gtc aca gaa gat atc agc ttt cta gag tct cca aat cca gaa aac aag 402

Val Thr Glu Asp Ile Ser Phe Leu Glu Ser Pro Asn Pro Glu Asn Lys

90

95

100

gac tat gaa gag cca aag aaa gta cgg aaa cca gct ttg acc gcc att 450

Asp Tyr Glu Glu Pro Lys Lys Val Arg Lys Pro Ala Leu Thr Ala Ile

105

110

115

gaa ggc aca gca cat ggg gag ccc tgc cac ttc cct ttt ctt ttc cta 498

Glu Gly Thr Ala His Gly Glu Pro Cys His Phe Pro Phe Leu Phe Leu

120

125

130

gat aag gag tat gat gaa tgt aca tca gat ggg agg gaa gat ggc aga 546

Asp Lys Glu Tyr Asp Glu Cys Thr Ser Asp Gly Arg Glu Asp Gly Arg

135

140

145

150

ctg tgg tgt gct aca acc tat gac tac aaa gca gat gaa aag tgg ggc 594

Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys Ala Asp Glu Lys Trp Gly

155

160

165

ttt tgt gaa act gaa gaa gag gct gct aag aga cgg cag atg cag gaa 642

Phe Cys Glu Thr Glu Glu Glu Ala Ala Lys Arg Arg Gln Met Gln Glu

170

175

180

gca gaa atg atg taacaaactg gaatgaaaat ccttaatgga agcaataaga 694

Ala Glu Met Met

185

aaagccaaaa aagagaagca tatcggtatc tccaaaaggc agcaagcatg aaccatacca 754

aagccctgga gagagtgtca tatgctcttt tatttggtga ttacttgcca cagaatatcc 814

aggcagcgag agagatgttt gagaagctga ctgaggaagg ctctcccaag ggacagactg 874

ctcttggttt tctgtatgcc tctggacttg gtgttaattc aagtcaggca aaggctcttg 934

tatattatac atttgagct cttgggggca atctaatagc ccacatggtt ttgggttaca 994

gatactgggc tggcatcggc gtcctccaga gttgtgaatc tgccctgact cactatcgtc 1054

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 atgttaacgc tgaattgtat attaaatccc atttctaaaa accacacaat tttttctcat 2074
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tgctgctcat

2144

<210> 232

<211> 186

<212> PRT

<213> Homo sapiens

<400> 232

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Ser Leu Ala Ser Ala Ser Ser Asp Glu Glu Gly Ser Gln Asp Glu Ser

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25

30

Leu Asp Ser Lys Thr Thr Leu Thr Ser Asp Glu Ser Val Lys Asp His

35

40

45

Thr Thr Ala Gly Arg Val Val Ala Gly Gln Ile Phe Leu Asp Ser Glu

50

55

60

Glu Ser Glu Leu Glu Ser Ser Ile Gln Glu Glu Glu Asp Ser Leu Lys

65

70

75

80

Ser Gln Glu Gly Glu Ser Val Thr Glu Asp Ile Ser Phe Leu Glu Ser

85

90

95

Pro Asn Pro Glu Asn Lys Asp Tyr Glu Glu Pro Lys Lys Val Arg Lys

100

105

110

Pro Ala Leu Thr Ala Ile Glu Gly Thr Ala His Gly Glu Pro Cys His

115

120

125

Phe Pro Phe Leu Phe Leu Asp Lys Glu Tyr Asp Glu Cys Thr Ser Asp

130

135

140

Gly Arg Glu Asp Gly Arg Leu Trp Cys Ala Thr Thr Tyr Asp Tyr Lys

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Ala Asp Glu Lys Trp Gly Phe Cys Glu Thr Glu Glu Glu Ala Ala Lys

165

170

175

Arg Arg Gln Met Gln Glu Ala Glu Met Met

180

185

<210> 233

<211> 1689

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (113)..(1159)

<400> 233

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tctcatcgcg attgcactca tcaaagaagc cagcagggct gtgggatacg tc atg tgc 118

Met Cys

1

tcc ttg ctc tac cca ctg gtc acc ttc ttc ttg ctg tgc ctc tgc atc 166

Ser Leu Leu Tyr Pro Leu Val Thr Phe Phe Leu Leu Cys Leu Cys Ile

5

10

15

gcc tac tgg gcc agc act gct gtc ttc ctg tcc act tcc aac gaa gcg 214

Ala Tyr Trp Ala Ser Thr Ala Val Phe Leu Ser Thr Ser Asn Glu Ala

20

25

30

gtc tat aag atc ttt gat gac agc ccc tgc cca ttt act gcg aaa acc 262

Val Tyr Lys Ile Phe Asp Asp Ser Pro Cys Pro Phe Thr Ala Lys Thr

35

40

45

50

tgc aac cca gag acc ttc ccc tcc tcc aat gag tcc cgc caa tgc ccc 310

Cys Asn Pro Glu Thr Phe Pro Ser Ser Asn Glu Ser Arg Gln Cys Pro

55

60

65

aat gcc cgt tgc cag ttc gcc ttc tac ggt ggt gag tcg ggc tac cac 358

Asn Ala Arg Cys Gln Phe Ala Phe Tyr Gly Gly Glu Ser Gly Tyr His

70

75

80

cgg gcc ctg ctg ggc ctg cag atc ttc aat gcc ttc atg ttc ttc tgg 406

Arg Ala Leu Leu Gly Leu Gln Ile Phe Asn Ala Phe Met Phe Phe Trp

85

90

95

ttg gcc aac ttc gtg ctg gcg ctg ggc cag gtc acg ctg gcc ggg gcc 454
 Leu Ala Asn Phe Val Leu Ala Leu Gly Gln Val Thr Leu Ala Gly Ala
 100 105 110

ttt gcc tcc tac tac tgg gcc ctg cgc aag ccg gac gac ctg ccg gcc 502
 Phe Ala Ser Tyr Tyr Trp Ala Leu Arg Lys Pro Asp Asp Leu Pro Ala
 115 120 125 130

ttc ccg ctc ttc tct gcc ttt ggc cgg gcg ctc agg tac cac aca ggc 550
 Phe Pro Leu Phe Ser Ala Phe Gly Arg Ala Leu Arg Tyr His Thr Gly
 135 140 145

tcc ctg gcc ttt ggc gcg ctc atc ctg gcc att gtg cag atc atc cgt 598
 Ser Leu Ala Phe Gly Ala Leu Ile Leu Ala Ile Val Gln Ile Ile Arg
 150 155 160

gtg ata ctc gag tac ctg gat cag cgg ctg aaa gct gca gag aac aag 646
 Val Ile Leu Glu Tyr Leu Asp Gln Arg Leu Lys Ala Ala Glu Asn Lys
 165 170 175

ttt gcc aag tgc ctc atg acc tgt ctc aaa tgc tgc ttc tgg tgc ctg 694
 Phe Ala Lys Cys Leu Met Thr Cys Leu Lys Cys Cys Phe Trp Cys Leu
 180 185 190

gag aag ttc atc aaa ttc ctt aat agg aat gcc tac atc atg att gcc 742
 Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala
 195 200 205 210

atc tac ggc acc aat ttc tgc acc tcg gcc agg aat gcc ttc ttc ctg 790

Ile Tyr Gly Thr Asn Phe Cys Thr Ser Ala Arg Asn Ala Phe Phe Leu

215

220

225

ctc atg aga aac atc atc aga gtg gct gtc ctg gat aaa gtt act gac 838

Leu Met Arg Asn Ile Ile Arg Val Ala Val Leu Asp Lys Val Thr Asp

230

235

240

ttc ctc ttc ctg ttg ggc aaa ctt ctg atc gtt ggt agt gtg ggg atc 886

Phe Leu Phe Leu Leu Gly Lys Leu Leu Ile Val Gly Ser Val Gly Ile

245

250

255

ctg gct ttc ttc ttc ttc acc cac cgt atc agg atc gtg cag gat aca 934

Leu Ala Phe Phe Phe Phe Thr His Arg Ile Arg Ile Val Gln Asp Thr

260

265

270

gca cca ccc ctc aat tat tac tgg gtt cct ata ctg acg gtg atc gtt 982

Ala Pro Pro Leu Asn Tyr Tyr Trp Val Pro Ile Leu Thr Val Ile Val

275

280

285

290

ggc tcc tac ttg att gca cac ggt ttc ttc agc gtc tat ggc atg tgt 1030

Gly Ser Tyr Leu Ile Ala His Gly Phe Phe Ser Val Tyr Gly Met Cys

295

300

305

gtg gac acg ctg ttc ctc tgc ttc ttg gag gac ctg gag agg aat gac 1078

Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu Glu Arg Asn Asp

310

315

320

ggc tcg gcc gag agg cct tac ttc atg tct tcc acc ctc aag aaa ctc 1126

Gly Ser Ala Glu Arg Pro Tyr Phe Met Ser Ser Thr Leu Lys Lys Leu

325

330

335

ttg aac aag acc aac aag aag gca gcg gag tcc tgaaggcccc gtgctcccca 1179

Leu Asn Lys Thr Asn Lys Lys Ala Ala Glu Ser

340

345

cctctcaagg agtctcatgc cgcagggtgc tcagtagctg ggtctgttcc cccagccccct 1239

tgggtcacc tgaagtccta tcaactgccgc tctgcccctc cccatgagcc agatcccacc 1299

agtttctgga cgtggagagt ctggggcatc tccttcttat gccaaaggggc gcttggagtt 1359

ttcatggctg cccctccaga ctgcgagaaa caagtaaaaa cccattgggg cctcttgatg 1419

tctgggatgg cacgtggccc gacctccaca agctccctca tgcttctgt cccccgtta 1479

cacgacaacg ggccagacca cgggaaggac ggtgtttgtg tctgaggag ctgctggccg 1539

cagtgaacac ccacgtttat tcctgcctgc tccggccagg actgaacccc ttctccacac 1599

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ggacatgcat taaagggtct attagctttc 1689

<210> 234

<211> 349

<212> PRT

<213> Homo sapiens

<400> 234

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Cys Ile Ala Tyr Trp Ala Ser Thr Ala Val Phe Leu Ser Thr Ser Asn

20 25 30

Glu Ala Val Tyr Lys Ile Phe Asp Asp Ser Pro Cys Pro Phe Thr Ala

35 40 45

Lys Thr Cys Asn Pro Glu Thr Phe Pro Ser Ser Asn Glu Ser Arg Gln

50 55 60

Cys Pro Asn Ala Arg Cys Gln Phe Ala Phe Tyr Gly Gly Glu Ser Gly

65 70 75 80

Tyr His Arg Ala Leu Leu Gly Leu Gln Ile Phe Asn Ala Phe Met Phe

85 90 95

Phe Trp Leu Ala Asn Phe Val Leu Ala Leu Gly Gln Val Thr Leu Ala

100 105 110

Gly Ala Phe Ala Ser Tyr Tyr Trp Ala Leu Arg Lys Pro Asp Asp Leu

115 120 125

Pro Ala Phe Pro Leu Phe Ser Ala Phe Gly Arg Ala Leu Arg Tyr His

130 135 140

Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu Ala Ile Val Gln Ile
145 150 155 160

Ile Arg Val Ile Leu Glu Tyr Leu Asp Gln Arg Leu Lys Ala Ala Glu
165 170 175

Asn Lys Phe Ala Lys Cys Leu Met Thr Cys Leu Lys Cys Cys Phe Trp
180 185 190

Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala Tyr Ile Met
195 200 205

Ile Ala Ile Tyr Gly Thr Asn Phe Cys Thr Ser Ala Arg Asn Ala Phe
210 215 220

Phe Leu Leu Met Arg Asn Ile Ile Arg Val Ala Val Leu Asp Lys Val
225 230 235 240

Thr Asp Phe Leu Phe Leu Leu Gly Lys Leu Leu Ile Val Gly Ser Val
245 250 255

Gly Ile Leu Ala Phe Phe Phe Phe Thr His Arg Ile Arg Ile Val Gln
260 265 270

Asp Thr Ala Pro Pro Leu Asn Tyr Tyr Trp Val Pro Ile Leu Thr Val
275 280 285

Ile Val Gly Ser Tyr Leu Ile Ala His Gly Phe Phe Ser Val Tyr Gly
290 295 300

Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu Glu Arg
305 310 315 320

Asn Asp Gly Ser Ala Glu Arg Pro Tyr Phe Met Ser Ser Thr Leu Lys
325 330 335

Lys Leu Leu Asn Lys Thr Asn Lys Lys Ala Ala Glu Ser
340 345

<210> 235

<211> 1824

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (10)..(978)

<400> 235

ctgcagcc atg gcg gcc gcc gcg ctc cca gca tgg ctg tct ctg cag tcg 51

Met Ala Ala Ala Ala Leu Pro Ala Trp Leu Ser Leu Gln Ser

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10

agg gca agg act ctg cgt gca ttc tcc act gcc gtc tac tcg gcc act 99

Arg Ala Arg Thr Leu Arg Ala Phe Ser Thr Ala Val Tyr Ser Ala Thr

15

20

25

30

ccg gtc ccg aca cct agc ctg ccg gaa aga aca ccc gga aat gaa agg 147
 Pro Val Pro Thr Pro Ser Leu Pro Glu Arg Thr Pro Gly Asn Glu Arg
 35 40 45

cca cca aga aga aag gca cta cct cct agg aca gag aaa atg gct gtt 195
 Pro Pro Arg Arg Lys Ala Leu Pro Pro Arg Thr Glu Lys Met Ala Val
 50 55 60

gac cag gac tgg cct agt gtt tac cca gtt gca gca cca ttt aaa ccc 243
 Asp Gln Asp Trp Pro Ser Val Tyr Pro Val Ala Ala Pro Phe Lys Pro
 65 70 75

tct gca gta cct ctt cct gtt cga atg ggt tat cca gta aaa aag ggc 291
 Ser Ala Val Pro Leu Pro Val Arg Met Gly Tyr Pro Val Lys Lys Gly
 80 85 90

gtg ccc atg gca aag gag gga aat cta gaa ctt tta aag att ccc aat 339
 Val Pro Met Ala Lys Glu Gly Asn Leu Glu Leu Leu Lys Ile Pro Asn
 95 100 105 110

ttt ctg cat ttg act cct gta gca att aaa aag cac tgt gaa gcc ctt 387
 Phe Leu His Leu Thr Pro Val Ala Ile Lys Lys His Cys Glu Ala Leu
 115 120 125

aaa gat ttt tgc act gag tgg cca gcc gca ctg gac agt gac gag aaa 435
 Lys Asp Phe Cys Thr Glu Trp Pro Ala Ala Leu Asp Ser Asp Glu Lys
 130 135 140

tgt gag aag cat ttt cca att gaa att gac agc act gat tat gtt tca 483

Cys Glu Lys His Phe Pro Ile Glu Ile Asp Ser Thr Asp Tyr Val Ser
145 150 155

tca gga cca tct gtt cgg aac ccc aga gca cga gta gta gtc tta aga 531
Ser Gly Pro Ser Val Arg Asn Pro Arg Ala Arg Val Val Val Leu Arg
160 165 170

gta aag ctt tcc agt ttg aat tta gat gat cac gca aag aag aaa tta 579
Val Lys Leu Ser Ser Leu Asn Leu Asp Asp His Ala Lys Lys Lys Leu
175 180 185 190

att aaa ctt gta gga gag cga tac tgc aag acc aca gat gtg ctt acc 627
Ile Lys Leu Val Gly Glu Arg Tyr Cys Lys Thr Thr Asp Val Leu Thr
195 200 205

atc aaa aca gat agg tgc cct tta agg agg cag aat tac gat tat gca 675
Ile Lys Thr Asp Arg Cys Pro Leu Arg Arg Gln Asn Tyr Asp Tyr Ala
210 215 220

gtg tat cta cta aca gtg tta tac cat gag tct tgg aat act gaa gaa 723
Val Tyr Leu Leu Thr Val Leu Tyr His Glu Ser Trp Asn Thr Glu Glu
225 230 235

tgg gaa aaa agt aag act gaa gca gac atg gaa gag tat ata tgg gaa 771
Trp Glu Lys Ser Lys Thr Glu Ala Asp Met Glu Glu Tyr Ile Trp Glu
240 245 250

aat agc tca tca gaa aga aat atc ctg gaa acg ctt ctc cag atg aaa 819
Asn Ser Ser Ser Glu Arg Asn Ile Leu Glu Thr Leu Leu Gln Met Lys

255	260	265	270
gct gct gag aaa aat atg gaa ata aat aaa gaa gag ctc ctt ggt act 867			
Ala Ala Glu Lys Asn Met Glu Ile Asn Lys Glu Glu Leu Leu Gly Thr			
275	280	285	
aaa gaa att gaa gag tac aaa aag tct gtt gtt agt ctt aaa aat gag 915			
Lys Glu Ile Glu Glu Tyr Lys Lys Ser Val Val Ser Leu Lys Asn Glu			
290	295	300	
gag gaa aat gaa aat tcc att tct cag tac aaa gaa tcc gtg aag aga 963			
Glu Glu Asn Glu Asn Ser Ile Ser Gln Tyr Lys Glu Ser Val Lys Arg			
305	310	315	
cta tta aat gtg aca tgaattatgg agtagaaaaa tctgcttgat ttattaattt 1018			
Leu Leu Asn Val Thr			
320			
tatgatatat gtgatcagta tctaatttga tataaaattg aaaatgttaa aaaatcattt 1078			
tttttcctca gagttaaaat tatttccctc atactaatgc ttaatggcaa tgattactcc 1138			
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ttaattgtga ttttatcacc tttccattt ctttcccac aagctggcat ttcagtagtt 1318			
gcttttgaat aatggttttg gttacctggg aaggcaggcc cagaacccat ttccttgact 1378			

tgcagttccg ggctgtgttc acatgactgc tgtctagctg atgcattttt cacatttgtc 1438

aactctgggtt agaaacaggt cctcaggagt attctctaac ctgatatatt ctaaaaagat 1498

atgttgattc aactttgttt agcatcctac tttctagatt gtggggctca ttttgccagg 1558

gccaagctac cagaaaagta gaagtggaga ttacctggta tgtatctctc tgggtgcccc 1618

agttagagct gccacagctc aggaaaaaga tgaggcataa cgaccttgaa tgtaattgga 1678

gtaagtgaca aaataagaac taccctggga aaccctgcat tcaatgtagc tgtcaattca 1738

gtatitttaa gtacacctgt cagctgttcc ttaccacttc gatggttgatg attaatitaa 1798

aatcaaaaata aaggaattac tgagtt 1824

<210> 236

<211> 323

<212> PRT

<213> Homo sapiens

<400> 236

Met Ala Ala Ala Ala Leu Pro Ala Trp Leu Ser Leu Gln Ser Arg Ala

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15

Arg Thr Leu Arg Ala Phe Ser Thr Ala Val Tyr Ser Ala Thr Pro Val

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25

30

Pro Thr Pro Ser Leu Pro Glu Arg Thr Pro Gly Asn Glu Arg Pro Pro
35 40 45

Arg Arg Lys Ala Leu Pro Pro Arg Thr Glu Lys Met Ala Val Asp Gln
50 55 60

Asp Trp Pro Ser Val Tyr Pro Val Ala Ala Pro Phe Lys Pro Ser Ala
65 70 75 80

Val Pro Leu Pro Val Arg Met Gly Tyr Pro Val Lys Lys Gly Val Pro
85 90 95

Met Ala Lys Glu Gly Asn Leu Glu Leu Leu Lys Ile Pro Asn Phe Leu
100 105 110

His Leu Thr Pro Val Ala Ile Lys Lys His Cys Glu Ala Leu Lys Asp
115 120 125

Phe Cys Thr Glu Trp Pro Ala Ala Leu Asp Ser Asp Glu Lys Cys Glu
130 135 140

Lys His Phe Pro Ile Glu Ile Asp Ser Thr Asp Tyr Val Ser Ser Gly
145 150 155 160

Pro Ser Val Arg Asn Pro Arg Ala Arg Val Val Val Leu Arg Val Lys
165 170 175

Leu Ser Ser Leu Asn Leu Asp Asp His Ala Lys Lys Lys Leu Ile Lys

180

185

190

Leu Val Gly Glu Arg Tyr Cys Lys Thr Thr Asp Val Leu Thr Ile Lys

195

200

205

Thr Asp Arg Cys Pro Leu Arg Arg Gln Asn Tyr Asp Tyr Ala Val Tyr

210

215

220

Leu Leu Thr Val Leu Tyr His Glu Ser Trp Asn Thr Glu Glu Trp Glu

225

230

235

240

Lys Ser Lys Thr Glu Ala Asp Met Glu Glu Tyr Ile Trp Glu Asn Ser

245

250

255

Ser Ser Glu Arg Asn Ile Leu Glu Thr Leu Leu Gln Met Lys Ala Ala

260

265

270

Glu Lys Asn Met Glu Ile Asn Lys Glu Glu Leu Leu Gly Thr Lys Glu

275

280

285

Ile Glu Glu Tyr Lys Lys Ser Val Val Ser Leu Lys Asn Glu Glu Glu

290

295

300

Asn Glu Asn Ser Ile Ser Gln Tyr Lys Glu Ser Val Lys Arg Leu Leu

305

310

315

320

Asn Val Thr

<210> 237

<211> 1959

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (56)..(478)

<400> 237

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ttc acc agc acc ggc tcc agt ggg ctc tac aag gcg cct ctg tcg aag 106

Phe Thr Ser Thr Gly Ser Ser Gly Leu Tyr Lys Ala Pro Leu Ser Lys

5

10

15

agc ctt ctg ctg gtc ccc agt gcc ctc tcc ctc ctg ctc gcc ctc ctc 154

Ser Leu Leu Leu Val Pro Ser Ala Leu Ser Leu Leu Leu Ala Leu Leu

20

25

30

ctg cct cac tgc cag aag ctc ttt gtg tat gac ctt cac gca gtc aag 202

Leu Pro His Cys Gln Lys Leu Phe Val Tyr Asp Leu His Ala Val Lys

35

40

45

aac gac ttc cag cct ggc acc tgt gtt tgc tct gtt tgt acc att tta 250

Asn Asp Phe Gln Pro Gly Thr Cys Val Cys Ser Val Cys Thr Ile Leu

50	55	60	65	
ctg ctc cat acc aag agt cca agt ggc aca aat tct ggg tcc gtt gtc				298
Leu Leu His Thr Lys Ser Pro Ser Gly Thr Asn Ser Gly Ser Val Val				
	70	75	80	
cat cac aaa caa gac att gat tta tat att ggg act gca gct ttt cac				346
His His Lys Gln Asp Ile Asp Leu Tyr Ile Gly Thr Ala Ala Phe His				
	85	90	95	
ctc tgg ttc cta cat ctg gat tgt agc cat aag tgg act tat gtc cgg				394
Leu Trp Phe Leu His Leu Asp Cys Ser His Lys Trp Thr Tyr Val Arg				
	100	105	110	
tct gtg cta cga cag caa aat gtt cca ggt gca tca ggt gct ctg cat				442
Ser Val Leu Arg Gln Gln Asn Val Pro Gly Ala Ser Gly Ala Leu His				
	115	120	125	
ccc cag ctg gat ggc aaa att ctt ttc ttg gac act tgaacccatc				488
Pro Gln Leu Asp Gly Lys Ile Leu Phe Leu Asp Thr				
	130	135	140	
ttctcttctt cagaaccac cagcgaagcc agaattggga tgggagccac gctggacatc				548
cagagacagc agagaatgga gctgctggac cggcagctga tgttctctca gtttgcacaa				608
gggaggcgac agagacagca gcagggagga atgatcaatt ggaatcgtct ttttctcct				668
ttacgtcagc gacaaaacgt aaactatcag ggcggtcggc agtctgagcc agcagcgccc				728

cctctagaag tttctgagga acaggtcgcc cggctcatgg agatgggatt ttccaagagg 788
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tagccactag gctgcgggtg aaatgggatg gagaagaaca acagcgggct tcctggagcc 1568

acatgggctg actagggcac tctgtggctg gcctggcatg ggctcagccc aggaagagga 1628

gaaacgatcc cttgcctgcc cctccctgtg gcagggctaa ctgcctggcc ctcctggctc 1688

gcagccagcc agccccctgg cagcaggttc tcctcagggc ttgggtcttc aacctgtggc 1748

gacaggaggc agggcagact gtggaggaca ggatgcaggt caggagagg gaaggcaggg 1808

gtggaccgcc atgagcatga aaagaccga agcaagttga ctcttgcaat gtgcaactgt 1868

tatgttctgc aaaatgagca acgatgtatc aaattgatgc aaatttagat gttgatactt 1928

acaataaagt ttttaatgtg ttttactctt c 1959

<210> 238

<211> 141

<212> PRT

<213> Homo sapiens

<400> 238

Met Phe Thr Ser Thr Gly Ser Ser Gly Leu Tyr Lys Ala Pro Leu Ser

1

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Lys Ser Leu Leu Leu Val Pro Ser Ala Leu Ser Leu Leu Leu Ala Leu

20

25

30

Leu Leu Pro His Cys Gln Lys Leu Phe Val Tyr Asp Leu His Ala Val

35

40

45

Lys Asn Asp Phe Gln Pro Gly Thr Cys Val Cys Ser Val Cys Thr Ile
50 55 60

Leu Leu Leu His Thr Lys Ser Pro Ser Gly Thr Asn Ser Gly Ser Val
65 70 75 80

Val His His Lys Gln Asp Ile Asp Leu Tyr Ile Gly Thr Ala Ala Phe
85 90 95

His Leu Trp Phe Leu His Leu Asp Cys Ser His Lys Trp Thr Tyr Val
100 105 110

Arg Ser Val Leu Arg Gln Gln Asn Val Pro Gly Ala Ser Gly Ala Leu
115 120 125

His Pro Gln Leu Asp Gly Lys Ile Leu Phe Leu Asp Thr
130 135 140

<210> 239

<211> 2112

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (425)..(2077)

<400> 239

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gagaggggca gggaccaggc gcgggaggcc agagggggca cagagaacaa accccctcag 180

aagtgaagag gagagcggaa ggaaccgaga ggggacggac aggagctgag gaggaagag 240

gaggggagag gggtcaggcc aggcagccaa ggagaagacg tgtggccggg ggctatcaga 300

aggaaactgg gacggacggg ccgggctcgg gctgtcctgt ggagcagcag catccccggg 360

gccggcagag gcgccagtgg ctgggcggga tgagtctctg agggccactg tggagcgccc 420

cgcc atg gcc ccc cgc acc ctc tgg agc tgc tac ctc tgc tgc ctg ctg 469

Met Ala Pro Arg Thr Leu Trp Ser Cys Tyr Leu Cys Cys Leu Leu

1 5 10 15

acg gca gct gca ggg gcc gcc agc tac cct cct cga ggt ttc agc ctc 517

Thr Ala Ala Ala Gly Ala Ala Ser Tyr Pro Pro Arg Gly Phe Ser Leu

20 25 30

tac aca ggt tcc agt ggg gcc ctc agc ccc ggg ggg ccc cag gcc cag 565

Tyr Thr Gly Ser Ser Gly Ala Leu Ser Pro Gly Gly Pro Gln Ala Gln

35 40 45

att gcc ccc cgg cca gcc agc cgc cac agg aac tgg tgt gcc tac gtg 613

Ile Ala Pro Arg Pro Ala Ser Arg His Arg Asn Trp Cys Ala Tyr Val

50

55

60

gtg acc cgg aca gtg agc tgt gtc ctt gag gat gga gtg gag aca tat 661

Val Thr Arg Thr Val Ser Cys Val Leu Glu Asp Gly Val Glu Thr Tyr

65

70

75

gtc aag tac cag cct tgt gcc tgg ggc cag ccc cag tgt ccc caa agc 709

Val Lys Tyr Gln Pro Cys Ala Trp Gly Gln Pro Gln Cys Pro Gln Ser

80

85

90

95

atc atg tac cgc cgc ttc ctc cgc cct cgc tac cgt gtg gcc tac aag 757

Ile Met Tyr Arg Arg Phe Leu Arg Pro Arg Tyr Arg Val Ala Tyr Lys

100

105

110

aca gtg acc gac atg gag tgg agg tgc tgt cag ggt tat ggg ggc gat 805

Thr Val Thr Asp Met Glu Trp Arg Cys Cys Gln Gly Tyr Gly Gly Asp

115

120

125

gac tgt gct gag agt ccc gct cca gcg ctg ggg cct gcg tct tcc aca 853

Asp Cys Ala Glu Ser Pro Ala Pro Ala Leu Gly Pro Ala Ser Ser Thr

130

135

140

cca cgg ccc ctg gcc cgg cct gcc cgc ccc aac ctc tct ggc tcc agt 901

Pro Arg Pro Leu Ala Arg Pro Ala Arg Pro Asn Leu Ser Gly Ser Ser

145

150

155

gca ggc agc ccc ctc agt gga ctg ggg gga gaa ggt cct ggg gag tca 949

Ala Gly Ser Pro Leu Ser Gly Leu Gly Gly Glu Gly Pro Gly Glu Ser

160

165

170

175

gag aag gtg cag cag ctg gag gaa cag gtg cag agc ctg acc aag gag	997
Glu Lys Val Gln Gln Leu Glu Glu Gln Val Gln Ser Leu Thr Lys Glu	
180 185 190	
ctg caa ggc ctg cgg ggc gtc ctg caa gga ctg agc ggg cgc ctg gca	1045
Leu Gln Gly Leu Arg Gly Val Leu Gln Gly Leu Ser Gly Arg Leu Ala	
195 200 205	
gag gat gtg cag agg gct gtg gag acg gcc ttc aac ggg agg cag cag	1093
Glu Asp Val Gln Arg Ala Val Glu Thr Ala Phe Asn Gly Arg Gln Gln	
210 215 220	
cca gct gac gcg gct gcc cgc cct ggg gtg cat gaa acc ctc aat gag	1141
Pro Ala Asp Ala Ala Ala Arg Pro Gly Val His Glu Thr Leu Asn Glu	
225 230 235	
atc cag cac cag ctg cag ctc ctg gac acc cgc gtc tcc acc cac gac	1189
Ile Gln His Gln Leu Gln Leu Leu Asp Thr Arg Val Ser Thr His Asp	
240 245 250 255	
ctg gag ctg ggt cac ctc aac aac cat cat ggc ggc agc agc agc agt	1237
Leu Glu Leu Gly His Leu Asn Asn His His Gly Gly Ser Ser Ser Ser	
260 265 270	
ggg ggc agc agg gcc cca gcc cca gcc tca gcc cct ccg ggc ccc agt	1285
Gly Gly Ser Arg Ala Pro Ala Pro Ala Ser Ala Pro Pro Gly Pro Ser	
275 280 285	

gag gag ctg ctg cgg cag ctg gag cag cgg ttg cag gag tcc tgc tcc 1333

Glu Glu Leu Leu Arg Gln Leu Glu Gln Arg Leu Gln Glu Ser Cys Ser

290

295

300

gtg tgc ctg gcc ggg cta gat ggc ttc cgc cgg cag cag cag gag gac 1381

Val Cys Leu Ala Gly Leu Asp Gly Phe Arg Arg Gln Gln Gln Glu Asp

305

310

315

agg gag cgg ctg cga gcg atg gag aag ctg ctg gcc tcg gtg gag gag 1429

Arg Glu Arg Leu Arg Ala Met Glu Lys Leu Leu Ala Ser Val Glu Glu

320

325

330

335

cgg caa cgg cac ctc gca ggg ctg gcg gtg ggc cgc agg ccc cct cag 1477

Arg Gln Arg His Leu Ala Gly Leu Ala Val Gly Arg Arg Pro Pro Gln

340

345

350

gaa tgc tgc tct cca gag ctg ggc cgg cga ctg gca gag ctg gag cgc 1525

Glu Cys Cys Ser Pro Glu Leu Gly Arg Arg Leu Ala Glu Leu Glu Arg

355

360

365

agg ctg gat gtc gtg gcc ggc tca gtg aca gtg ctg agt ggg cgg cga 1573

Arg Leu Asp Val Val Ala Gly Ser Val Thr Val Leu Ser Gly Arg Arg

370

375

380

ggc aca gag ctg gga gga gcc gcg ggg cag gga ggc cac ccc cca ggc 1621

Gly Thr Glu Leu Gly Gly Ala Ala Gly Gln Gly Gly His Pro Pro Gly

385

390

395

tac acc agc ttg gcc tcc cgc ctg tct cgc ctg gag gac cgc ttc aac 1669

515

520

525

ccc tcc act ggc cct cca ggt cga ttc cct ggg ctc cag gct ccc ccg 2053

Pro Ser Thr Gly Pro Pro Gly Arg Phe Pro Gly Leu Gln Ala Pro Pro

530

535

540

cgc ggg cgc cgc cca ccg cca tac taaacgatcg aggaataaag acacttggtt 2107

Arg Gly Arg Arg Pro Pro Pro Tyr

545

550

tttct

2112

<210> 240

<211> 551

<212> PRT

<213> Homo sapiens

<400> 240

Met Ala Pro Arg Thr Leu Trp Ser Cys Tyr Leu Cys Cys Leu Leu Thr

1

5

10

15

Ala Ala Ala Gly Ala Ala Ser Tyr Pro Pro Arg Gly Phe Ser Leu Tyr

20

25

30

Thr Gly Ser Ser Gly Ala Leu Ser Pro Gly Gly Pro Gln Ala Gln Ile

35

40

45

Ala Pro Arg Pro Ala Ser Arg His Arg Asn Trp Cys Ala Tyr Val Val

50

55

60

Thr Arg Thr Val Ser Cys Val Leu Glu Asp Gly Val Glu Thr Tyr Val

65

70

75

80

Lys Tyr Gln Pro Cys Ala Trp Gly Gln Pro Gln Cys Pro Gln Ser Ile

85

90

95

Met Tyr Arg Arg Phe Leu Arg Pro Arg Tyr Arg Val Ala Tyr Lys Thr

100

105

110

Val Thr Asp Met Glu Trp Arg Cys Cys Gln Gly Tyr Gly Gly Asp Asp

115

120

125

Cys Ala Glu Ser Pro Ala Pro Ala Leu Gly Pro Ala Ser Ser Thr Pro

130

135

140

Arg Pro Leu Ala Arg Pro Ala Arg Pro Asn Leu Ser Gly Ser Ser Ala

145

150

155

160

Gly Ser Pro Leu Ser Gly Leu Gly Gly Glu Gly Pro Gly Glu Ser Glu

165

170

175

Lys Val Gln Gln Leu Glu Glu Gln Val Gln Ser Leu Thr Lys Glu Leu

180

185

190

Gln Gly Leu Arg Gly Val Leu Gln Gly Leu Ser Gly Arg Leu Ala Glu

195

200

205

Asp Val Gln Arg Ala Val Glu Thr Ala Phe Asn Gly Arg Gln Gln Pro
210 215 220

Ala Asp Ala Ala Ala Arg Pro Gly Val His Glu Thr Leu Asn Glu Ile
225 230 235 240

Gln His Gln Leu Gln Leu Leu Asp Thr Arg Val Ser Thr His Asp Leu
245 250 255

Glu Leu Gly His Leu Asn Asn His His Gly Gly Ser Ser Ser Ser Gly
260 265 270

Gly Ser Arg Ala Pro Ala Pro Ala Ser Ala Pro Pro Gly Pro Ser Glu
275 280 285

Glu Leu Leu Arg Gln Leu Glu Gln Arg Leu Gln Glu Ser Cys Ser Val
290 295 300

Cys Leu Ala Gly Leu Asp Gly Phe Arg Arg Gln Gln Gln Glu Asp Arg
305 310 315 320

Glu Arg Leu Arg Ala Met Glu Lys Leu Leu Ala Ser Val Glu Glu Arg
325 330 335

Gln Arg His Leu Ala Gly Leu Ala Val Gly Arg Arg Pro Pro Gln Glu
340 345 350

Cys Cys Ser Pro Glu Leu Gly Arg Arg Leu Ala Glu Leu Glu Arg Arg
355 360 365

Leu Asp Val Val Ala Gly Ser Val Thr Val Leu Ser Gly Arg Arg Gly
370 375 380

Thr Glu Leu Gly Gly Ala Ala Gly Gln Gly Gly His Pro Pro Gly Tyr
385 390 395 400

Thr Ser Leu Ala Ser Arg Leu Ser Arg Leu Glu Asp Arg Phe Asn Ser
405 410 415

Thr Leu Gly Pro Ser Glu Glu Gln Glu Glu Ser Trp Pro Gly Ala Pro
420 425 430

Gly Gly Leu Ser His Trp Leu Pro Ala Ala Arg Gly Arg Leu Glu Gln
435 440 445

Leu Gly Gly Leu Leu Ala Asn Val Ser Gly Glu Leu Gly Gly Arg Leu
450 455 460

Asp Leu Leu Glu Glu Gln Val Ala Gly Ala Met Gln Arg His Arg Ala
465 470 475 480

Gln Ser Gly Leu Ser Pro Arg Pro Gly Arg Ala Gly Ser Gly Arg Leu
485 490 495

Gly Ala Ala His Ala Asp Phe Trp Pro Gly Ala Ile Pro Gln Glu Pro
500 505 510

Leu Gln Gly Arg Pro Ala Glu Glu Pro Ile Leu Ala Pro Ser Ala Pro

515

520

525

Ser Thr Gly Pro Pro Gly Arg Phe Pro Gly Leu Gln Ala Pro Pro Arg

530

535

540

Gly Arg Arg Pro Pro Pro Tyr

545

550

<210> 241

<211> 1765

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (440)..(1669)

<400> 241

aaattggagg tcccgggagc gaagtccagc tgccgttagg cgctgggata gtcgcacgct 60

ggatgcatct acgtccgccg agcccctggg gcgaagaggc cgcgtccgcc ttcagttgtg 120

gccggtgctt cgccccctga cccttcgcc ccaaagacca gctctaactg gagcgccctg 180

gccgccctgc ccagcctcg tacacgccgc cagcctcgcc cagccggtgt ccggagaccc 240

tcgggccgtg tccatttgtg ggcaaagcca gcggggcagg cttggccaga gtgcaccact 300

cggcgccgtc ccaggcccga cgctctgggc gcgcccggaa ccccaggttc gcggcccgtg 360

tttccgaccg gcggaggggg ctcagcggcc cgatcccacg gaagcgcgct cggaggggtg 420

ggaccgggcc ggaccggag atg gcg ccg cca gcg ggc ggg gcg gcg gcg gcg 472

Met Ala Pro Pro Ala Gly Gly Ala Ala Ala Ala

1

5

10

gcc tcg gac ttg ggc tcc gcc gca gtg ctc ttg gct gtg cac gcc gcg 520

Ala Ser Asp Leu Gly Ser Ala Ala Val Leu Leu Ala Val His Ala Ala

15

20

25

gtg agg ccg ctg ggc gcc ggg cca gac gcc gag gca cag ctg cgg agg 568

Val Arg Pro Leu Gly Ala Gly Pro Asp Ala Glu Ala Gln Leu Arg Arg

30

35

40

ctg cag ctg agc gcg gac cct gag agg cct ggg cgc ttc cgg ctg gag 616

Leu Gln Leu Ser Ala Asp Pro Glu Arg Pro Gly Arg Phe Arg Leu Glu

45

50

55

ctg ctg ggc gcg gga cct ggg gcg gtt aat ttg gag tgg ccc ctg gag 664

Leu Leu Gly Ala Gly Pro Gly Ala Val Asn Leu Glu Trp Pro Leu Glu

60

65

70

75

tca gtt tcc tac acc atc cga ggc ccc acc cag cac gag cta cag cct 712

Ser Val Ser Tyr Thr Ile Arg Gly Pro Thr Gln His Glu Leu Gln Pro

80

85

90

cca cca gga ggg cct gga acc ctc agc ctg cac ttc ctc aac cct cag 760

Pro Pro Gly Gly Pro Gly Thr Leu Ser Leu His Phe Leu Asn Pro Gln

95

100

105

gaa gct cag cgg tgg gca gtc cta gtc cga ggt gcc acc gtg gaa gga 808

Glu Ala Gln Arg Trp Ala Val Leu Val Arg Gly Ala Thr Val Glu Gly

110

115

120

cag aat ggc agc aag agc aac tca cca cca gcc ttg ggc cca gaa gca 856

Gln Asn Gly Ser Lys Ser Asn Ser Pro Pro Ala Leu Gly Pro Glu Ala

125

130

135

tgc cct gtc tcc ctg ccc agt ccc ccg gaa gcc tcc aca ctc aag ggc 904

Cys Pro Val Ser Leu Pro Ser Pro Pro Glu Ala Ser Thr Leu Lys Gly

140

145

150

155

cct cca cct gag gca gat ctt cct agg agc cct gga aac ttg acg gag 952

Pro Pro Pro Glu Ala Asp Leu Pro Arg Ser Pro Gly Asn Leu Thr Glu

160

165

170

aga gaa gag ctg gca ggg agc ctg gcc cgg gct att gca ggt gga gac 1000

Arg Glu Glu Leu Ala Gly Ser Leu Ala Arg Ala Ile Ala Gly Gly Asp

175

180

185

gag aag ggg gca gcc caa gtg gca gcc gtc ctg gcc cag cat cgt gtg 1048

Glu Lys Gly Ala Ala Gln Val Ala Ala Val Leu Ala Gln His Arg Val

190

195

200

gcc ctg agt gtt cag ctt cag gag gcc tgc ttc cca cct ggc ccc atc 1096

Ala Leu Ser Val Gln Leu Gln Glu Ala Cys Phe Pro Pro Gly Pro Ile

205	210	215	
agg ctg cag gtc aca ctt gaa gac gct gcc tct gcc gca tcc gcc gcg 1144			
Arg Leu Gln Val Thr Leu Glu Asp Ala Ala Ser Ala Ala Ser Ala Ala			
220	225	230	235
tcc tct gca cac gtt gcc ctg cgg gtc cac ccc cac tgc act gtt gca 1192			
Ser Ser Ala His Val Ala Leu Arg Val His Pro His Cys Thr Val Ala			
	240	245	250
gct ctc cag gag cag gtg ttc tca gag ctc ggt ttc ccg cca gcc gtg 1240			
Ala Leu Gln Glu Gln Val Phe Ser Glu Leu Gly Phe Pro Pro Ala Val			
	255	260	265
caa cgc tgg gtc atc gga cgg tgc ctg tgt gtg cct gag cgc agc ctt 1288			
Gln Arg Trp Val Ile Gly Arg Cys Leu Cys Val Pro Glu Arg Ser Leu			
	270	275	280
gcc tct tac ggg gtt cgg cag gat ggg gac cct gct ttc ctc tac ttg 1336			
Ala Ser Tyr Gly Val Arg Gln Asp Gly Asp Pro Ala Phe Leu Tyr Leu			
	285	290	295
ctg tca gct cct cga gaa gcc cca gcc aca gga cct agc cct cag cac 1384			
Leu Ser Ala Pro Arg Glu Ala Pro Ala Thr Gly Pro Ser Pro Gln His			
300	305	310	315
ccc cag aag atg gac ggg gaa ctt gga cgc ttg ttt ccc cca tca ttg 1432			
Pro Gln Lys Met Asp Gly Glu Leu Gly Arg Leu Phe Pro Pro Ser Leu			
	320	325	330

ggg cta ccc cag gcc ccc agc cag ctg cct cca gcc tgc cca gtc cac 1480
 Gly Leu Pro Gln Ala Pro Ser Gln Leu Pro Pro Ala Cys Pro Val His
 335 340 345

 tcc agc cca gct ggt cct gtc ctt cct gca cct tca tca atg ccc cag 1528
 Ser Ser Pro Ala Gly Pro Val Leu Pro Ala Pro Ser Ser Met Pro Gln
 350 355 360

 acc gcc ctg gct gtg aga tgt gta gca ccc aga ggc cct gca ctt ggg 1576
 Thr Ala Leu Ala Val Arg Cys Val Ala Pro Arg Gly Pro Ala Leu Gly
 365 370 375

 acc ccc ttg ctg cag ctt cca cct agc agc cac cag agg tta caa ggg 1624
 Thr Pro Leu Leu Gln Leu Pro Pro Ser Ser His Gln Arg Leu Gln Gly
 380 385 390 395

 gag agt ggc cct tcc ctc aca agt ccg aca tct cca ggc ccc cac 1669
 Glu Ser Gly Pro Ser Leu Thr Ser Pro Thr Ser Pro Gly Pro His
 400 405 410

 tgaactccgg ggacctctac tgactgcttg ctgggacagt caccagggtt ggggggaagg 1729

 gccacaaaat gaaaccatta aagaccctta agagcc 1765

<210> 242

<211> 410

<212> PRT

<213> Homo sapiens

<400> 242

Met Ala Pro Pro Ala Gly Gly Ala Ala Ala Ala Ala Ser Asp Leu Gly
1 5 10 15

Ser Ala Ala Val Leu Leu Ala Val His Ala Ala Val Arg Pro Leu Gly
20 25 30

Ala Gly Pro Asp Ala Glu Ala Gln Leu Arg Arg Leu Gln Leu Ser Ala
35 40 45

Asp Pro Glu Arg Pro Gly Arg Phe Arg Leu Glu Leu Leu Gly Ala Gly
50 55 60

Pro Gly Ala Val Asn Leu Glu Trp Pro Leu Glu Ser Val Ser Tyr Thr
65 70 75 80

Ile Arg Gly Pro Thr Gln His Glu Leu Gln Pro Pro Pro Gly Gly Pro
85 90 95

Gly Thr Leu Ser Leu His Phe Leu Asn Pro Gln Glu Ala Gln Arg Trp
100 105 110

Ala Val Leu Val Arg Gly Ala Thr Val Glu Gly Gln Asn Gly Ser Lys
115 120 125

Ser Asn Ser Pro Pro Ala Leu Gly Pro Glu Ala Cys Pro Val Ser Leu
130 135 140

Pro Ser Pro Pro Glu Ala Ser Thr Leu Lys Gly Pro Pro Pro Glu Ala
145 150 155 160

Asp Leu Pro Arg Ser Pro Gly Asn Leu Thr Glu Arg Glu Glu Leu Ala
 165 170 175

Gly Ser Leu Ala Arg Ala Ile Ala Gly Gly Asp Glu Lys Gly Ala Ala
 180 185 190

Gln Val Ala Ala Val Leu Ala Gln His Arg Val Ala Leu Ser Val Gln
 195 200 205

Leu Gln Glu Ala Cys Phe Pro Pro Gly Pro Ile Arg Leu Gln Val Thr
 210 215 220

Leu Glu Asp Ala Ala Ser Ala Ala Ser Ala Ala Ser Ser Ala His Val
225 230 235 240

Ala Leu Arg Val His Pro His Cys Thr Val Ala Ala Leu Gln Glu Gln
 245 250 255

Val Phe Ser Glu Leu Gly Phe Pro Pro Ala Val Gln Arg Trp Val Ile
 260 265 270

Gly Arg Cys Leu Cys Val Pro Glu Arg Ser Leu Ala Ser Tyr Gly Val
 275 280 285

Arg Gln Asp Gly Asp Pro Ala Phe Leu Tyr Leu Leu Ser Ala Pro Arg

290

295

300

Glu Ala Pro Ala Thr Gly Pro Ser Pro Gln His Pro Gln Lys Met Asp

305

310

315

320

Gly Glu Leu Gly Arg Leu Phe Pro Pro Ser Leu Gly Leu Pro Gln Ala

325

330

335

Pro Ser Gln Leu Pro Pro Ala Cys Pro Val His Ser Ser Pro Ala Gly

340

345

350

Pro Val Leu Pro Ala Pro Ser Ser Met Pro Gln Thr Ala Leu Ala Val

355

360

365

Arg Cys Val Ala Pro Arg Gly Pro Ala Leu Gly Thr Pro Leu Leu Gln

370

375

380

Leu Pro Pro Ser Ser His Gln Arg Leu Gln Gly Glu Ser Gly Pro Ser

385

390

395

400

Leu Thr Ser Pro Thr Ser Pro Gly Pro His

405

410

<210> 243

<211> 1369

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (23)..(748)

<400> 243

aacgagctcg ggcctcaccc gg atg gcg gct gcg acg cgc ggc tgc cgg ccc 52

Met Ala Ala Ala Thr Arg Gly Cys Arg Pro

1

5

10

tgg ggc tgc ctc ctc ggg ctg ctc ggg ctg gtc tgc gcc gcg gcc gcc 100

Trp Gly Ser Leu Leu Gly Leu Leu Gly Leu Val Ser Ala Ala Ala Ala

15

20

25

gcc tgg gac ctg gct tcc ctg cgc tgc acc ttg ggc gcc ttt tgc gaa 148

Ala Trp Asp Leu Ala Ser Leu Arg Cys Thr Leu Gly Ala Phe Cys Glu

30

35

40

tgc gac ttc cgg ccc gac ttg ccg ggt ctg gag tgt gac ctg gct cag 196

Cys Asp Phe Arg Pro Asp Leu Pro Gly Leu Glu Cys Asp Leu Ala Gln

45

50

55

cac ctg gcc ggc cag cat ctg gcc aag gcg ctg gtg gtg aag gcg ctg 244

His Leu Ala Gly Gln His Leu Ala Lys Ala Leu Val Val Lys Ala Leu

60

65

70

aag gcc ttt gtg cgg gac cca gcc ccc acc aag ccg ctg gtc ctc tcc 292

Lys Ala Phe Val Arg Asp Pro Ala Pro Thr Lys Pro Leu Val Leu Ser

75

80

85

90

ctg cac ggc tgg acc ggc acc ggc aaa tcc tat gtc agc tcc ctg ctg 340
 Leu His Gly Trp Thr Gly Thr Gly Lys Ser Tyr Val Ser Ser Leu Leu
 95 100 105

gcg cac tac ctc ttc cag ggc ggc ctc cgc agc ccc cgc gtg cac cac 388
 Ala His Tyr Leu Phe Gln Gly Gly Leu Arg Ser Pro Arg Val His His
 110 115 120

ttt tct ccc gtc ctc cac ttc ccc cac ccc agc cac atc gag cgc tac 436
 Phe Ser Pro Val Leu His Phe Pro His Pro Ser His Ile Glu Arg Tyr
 125 130 135

aag aag gat ctg aag agc tgg gtc caa ggg aac ctc act gcc tgt ggc 484
 Lys Lys Asp Leu Lys Ser Trp Val Gln Gly Asn Leu Thr Ala Cys Gly
 140 145 150

cgc tcc ctc ttc ctc ttc gat gag atg gac aag atg ccc cca ggc ctg 532
 Arg Ser Leu Phe Leu Phe Asp Glu Met Asp Lys Met Pro Pro Gly Leu
 155 160 165 170

atg gaa gtc ctg cgg cct ttc ctg ggc tcc tcc tgg gtg gta tac ggg 580
 Met Glu Val Leu Arg Pro Phe Leu Gly Ser Ser Trp Val Val Tyr Gly
 175 180 185

acc aat tac cgc aaa gcc atc ttc atc ttc atc aga tgg ctt ctc aaa 628
 Thr Asn Tyr Arg Lys Ala Ile Phe Ile Phe Ile Arg Trp Leu Leu Lys
 190 195 200

ctc ggg cat cat gga aga gcg cct cct aga cgc agt ggt gcc ctt cct 676

Leu Gly His His Gly Arg Ala Pro Pro Arg Arg Ser Gly Ala Leu Pro

205

210

215

ccc gct cca gcg gca cca cgt ccg gca ctg cgt gct caa cga gct ggc 724

Pro Ala Pro Ala Ala Pro Arg Pro Ala Leu Arg Ala Gln Arg Ala Gly

220

225

230

cca gct ggg cct gga gcc aag gga tgaggtgtgc caggctgtgc tggacagcac 778

Pro Ala Gly Pro Gly Ala Lys Gly

235

240

caccttcttc cctgaagacg agcagctctt ctctccaac ggctgcaaga ccgtggcctc 838

ccgaatgcc ttcttctct gactctctga gtggtgtcct cggccccct gatggccagg 898

ccatgcagga aaggccaggg gcctctgtca caggaacca gagcaccaag tgagatgaac 958

ggagtgtcgg ctaggccacg ggacagatgg ccaggaaggg ccctggcctc taaactggct 1018

cgagagcatc ttggccccgg ccaccttccc cagggaacc cctggtcacc ccagaacctc 1078

actgagcctt gacctcccc tgcagcctga gccttcttac tgtgaattat aactcaggga 1138

ctgtggctcg tggcggtgct cctcctcag tctgccacc ttgcccttg cctccttggt 1198

cgggcacat acctctccc ctccaccca caccctgtgt ccatatcaag ccaggtggag 1258

ccttctcagt ttccagaaat ggagggactc aagctgccac ttgggcctgg ttttagatgt 1318

ttttaatttt gtaaaagaaa acaagtataa taaactcagc tgtgggacca g

1369

<210> 244

<211> 242

<212> PRT

<213> Homo sapiens

<400> 244

Met Ala Ala Ala Thr Arg Gly Cys Arg Pro Trp Gly Ser Leu Leu Gly

1 5 10 15

Leu Leu Gly Leu Val Ser Ala Ala Ala Ala Ala Trp Asp Leu Ala Ser

20 25 30

Leu Arg Cys Thr Leu Gly Ala Phe Cys Glu Cys Asp Phe Arg Pro Asp

35 40 45

Leu Pro Gly Leu Glu Cys Asp Leu Ala Gln His Leu Ala Gly Gln His

50 55 60

Leu Ala Lys Ala Leu Val Val Lys Ala Leu Lys Ala Phe Val Arg Asp

65 70 75 80

Pro Ala Pro Thr Lys Pro Leu Val Leu Ser Leu His Gly Trp Thr Gly

85 90 95

Thr Gly Lys Ser Tyr Val Ser Ser Leu Leu Ala His Tyr Leu Phe Gln

100 105 110

Gly Gly Leu Arg Ser Pro Arg Val His His Phe Ser Pro Val Leu His

115

120

125

Phe Pro His Pro Ser His Ile Glu Arg Tyr Lys Lys Asp Leu Lys Ser

130

135

140

Trp Val Gln Gly Asn Leu Thr Ala Cys Gly Arg Ser Leu Phe Leu Phe

145

150

155

160

Asp Glu Met Asp Lys Met Pro Pro Gly Leu Met Glu Val Leu Arg Pro

165

170

175

Phe Leu Gly Ser Ser Trp Val Val Tyr Gly Thr Asn Tyr Arg Lys Ala

180

185

190

Ile Phe Ile Phe Ile Arg Trp Leu Leu Lys Leu Gly His His Gly Arg

195

200

205

Ala Pro Pro Arg Arg Ser Gly Ala Leu Pro Pro Ala Pro Ala Ala Pro

210

215

220

Arg Pro Ala Leu Arg Ala Gln Arg Ala Gly Pro Ala Gly Pro Gly Ala

225

230

235

240

Lys Gly

<210> 245

<211> 1584

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (100)..(1194)

<400> 245

gcgctcgccg cgctcgcaact gaagcccggg ccctcgcgcg ccgcggttcg ccccgagcc 60

tcgccccctg cccacccggg cggccgtagg gcggtcacg atg ctg ccg ccc tta 114

Met Leu Pro Pro Leu

1 5

ccc tcc cgc ctc ggg ctg ctg ctg ctg ctg ctc ctg tgc ccg gcg cac 162

Pro Ser Arg Leu Gly Leu Leu Leu Leu Leu Leu Leu Cys Pro Ala His

10 15 20

gtc ggc gga ctg tgg tgg gct gtg ggc agc ccc ttg gtt atg gac cct 210

Val Gly Gly Leu Trp Trp Ala Val Gly Ser Pro Leu Val Met Asp Pro

25 30 35

acc agc atc tgc agg aag gca cgg cgg ctg gcc ggg cgg cag gcc gag 258

Thr Ser Ile Cys Arg Lys Ala Arg Arg Leu Ala Gly Arg Gln Ala Glu

40 45 50

ttg tgc cag gct gag ccg gaa gtg gtg gca gag cta gct cgg ggc gcc 306

Leu Cys Gln Ala Glu Pro Glu Val Val Ala Glu Leu Ala Arg Gly Ala

55

60

65

cgg ctc ggg gtg cga gag tgc cag ttc cag ttc cgc ttc cgc cgc tgg 354

Arg Leu Gly Val Arg Glu Cys Gln Phe Gln Phe Arg Phe Arg Arg Trp

70

75

80

85

aat tgc tcc agc cac agc aag gcc ttt gga cgc atc ctg caa cag gac 402

Asn Cys Ser Ser His Ser Lys Ala Phe Gly Arg Ile Leu Gln Gln Asp

90

95

100

att cgg gag acg gcc ttc gtg ttc gcc atc act gcg gcc ggc gcc agc 450

Ile Arg Glu Thr Ala Phe Val Phe Ala Ile Thr Ala Ala Gly Ala Ser

105

110

115

cac gcc gtc acg cag gcc tgt tct atg ggc gag ctg ctg cag tgc ggc 498

His Ala Val Thr Gln Ala Cys Ser Met Gly Glu Leu Leu Gln Cys Gly

120

125

130

tgc cag gcg ccc cgc tgg cgg gcc cct ccc cgg ccc tcc ggc ctg ccc 546

Cys Gln Ala Pro Arg Trp Arg Ala Pro Pro Arg Pro Ser Gly Leu Pro

135

140

145

ggc acc ccc gga ccc cct ggc ccc gcg ggc tcc ccg gaa ggc agc gcc 594

Gly Thr Pro Gly Pro Pro Gly Pro Ala Gly Ser Pro Glu Gly Ser Ala

150

155

160

165

gcc tgg gag tgg gga ggc tgc ggc gac gac gtg gac ttc ggg gac gag 642

Ala Trp Glu Trp Gly Gly Cys Gly Asp Asp Val Asp Phe Gly Asp Glu

170	175	180	
aag tcg agg ctc ttt atg gac gcg cgg cac aag cgg gga cgc gga gac			690
Lys Ser Arg Leu Phe Met Asp Ala Arg His Lys Arg Gly Arg Gly Asp			
185	190	195	
atc cgc gcg ttg gtg caa ctg cac aac aac gag gcg ggc agg ctg gcc			738
Ile Arg Ala Leu Val Gln Leu His Asn Asn Glu Ala Gly Arg Leu Ala			
200	205	210	
gtg cgg agc cac acg cgc acc gag tgc aaa tgc cac ggg ctg tcg gga			786
Val Arg Ser His Thr Arg Thr Glu Cys Lys Cys His Gly Leu Ser Gly			
215	220	225	
tca tgc gcg ctg cgc acc tgc tgg cag aag ctg cct cca ttt cgc gag			834
Ser Cys Ala Leu Arg Thr Cys Trp Gln Lys Leu Pro Pro Phe Arg Glu			
230	235	240	245
gtg ggc gcg cgg ctg ctg gag cgc ttc cac ggc gcc tca cgc gtc atg			882
Val Gly Ala Arg Leu Leu Glu Arg Phe His Gly Ala Ser Arg Val Met			
250	255	260	
ggc acc aac gac ggc aag gcc ctg ctg ccc gcc gtc cgc acg ctc aag			930
Gly Thr Asn Asp Gly Lys Ala Leu Leu Pro Ala Val Arg Thr Leu Lys			
265	270	275	
ccg ccg ggc cga gcg gac ctc ctc tac gcc gcc gat tcg ccc gac ttc			978
Pro Pro Gly Arg Ala Asp Leu Leu Tyr Ala Ala Asp Ser Pro Asp Phe			
280	285	290	

tgc gcc ccc aac cga cgc acc ggc tcc ccc ggc acg cgc ggt cgc gcc 1026

Cys Ala Pro Asn Arg Arg Thr Gly Ser Pro Gly Thr Arg Gly Arg Ala

295

300

305

tgc aat agc agc gcc ccg gac ctc agc ggc tgc gac ctg ctg tgc tgc 1074

Cys Asn Ser Ser Ala Pro Asp Leu Ser Gly Cys Asp Leu Leu Cys Cys

310

315

320

325

ggc cgc ggg cac cgc cag gag agc gtg cag ctc gaa gag aac tgc ctg 1122

Gly Arg Gly His Arg Gln Glu Ser Val Gln Leu Glu Glu Asn Cys Leu

330

335

340

tgc cgc ttc cac tgg tgc tgc gta gta cag tgc cac cgc tgc cgt gtg 1170

Cys Arg Phe His Trp Cys Cys Val Val Gln Cys His Arg Cys Arg Val

345

350

355

cgc aag gag ctc agc ctc tgc ctg tgacccgccg cccggccgct agactgactt 1224

Arg Lys Glu Leu Ser Leu Cys Leu

360

365

cgcgacgcgg tggctcgcac ctgtgggacc tcagggcacc ggcaccgggc gcctctcgcc 1284

gctcgagccc agcctctccc tgccaaagcc caactcccag ggctctggaa atggtgaggc 1344

gaggggcttg agaggaacgc ccacccacga aggcccaggg cgccagacgg ccccgaaaag 1404

gcgctcgggg agcggtttaa ggacactgta caggccctcc ctccccttgg cctctaggag 1464

gaaacagttt tttagactgg aaaaaagcca gtctaaaggc ctctggatac tgggctcccc 1524

agaactgctg gccacaggat ggtgggtgag gttagtatca ataaagatat ttaaaccacc 1584

<210> 246

<211> 365

<212> PRT

<213> Homo sapiens

<400> 246

Met Leu Pro Pro Leu Pro Ser Arg Leu Gly Leu Leu Leu Leu Leu

1 5 10 15

Leu Cys Pro Ala His Val Gly Gly Leu Trp Trp Ala Val Gly Ser Pro

20 25 30

Leu Val Met Asp Pro Thr Ser Ile Cys Arg Lys Ala Arg Arg Leu Ala

35 40 45

Gly Arg Gln Ala Glu Leu Cys Gln Ala Glu Pro Glu Val Val Ala Glu

50 55 60

Leu Ala Arg Gly Ala Arg Leu Gly Val Arg Glu Cys Gln Phe Gln Phe

65 70 75 80

Arg Phe Arg Arg Trp Asn Cys Ser Ser His Ser Lys Ala Phe Gly Arg

85 90 95

Ile Leu Gln Gln Asp Ile Arg Glu Thr Ala Phe Val Phe Ala Ile Thr
100 105 110

Ala Ala Gly Ala Ser His Ala Val Thr Gln Ala Cys Ser Met Gly Glu
115 120 125

Leu Leu Gln Cys Gly Cys Gln Ala Pro Arg Trp Arg Ala Pro Pro Arg
130 135 140

Pro Ser Gly Leu Pro Gly Thr Pro Gly Pro Pro Gly Pro Ala Gly Ser
145 150 155 160

Pro Glu Gly Ser Ala Ala Trp Glu Trp Gly Gly Cys Gly Asp Asp Val
165 170 175

Asp Phe Gly Asp Glu Lys Ser Arg Leu Phe Met Asp Ala Arg His Lys
180 185 190

Arg Gly Arg Gly Asp Ile Arg Ala Leu Val Gln Leu His Asn Asn Glu
195 200 205

Ala Gly Arg Leu Ala Val Arg Ser His Thr Arg Thr Glu Cys Lys Cys
210 215 220

His Gly Leu Ser Gly Ser Cys Ala Leu Arg Thr Cys Trp Gln Lys Leu
225 230 235 240

Pro Pro Phe Arg Glu Val Gly Ala Arg Leu Leu Glu Arg Phe His Gly
245 250 255

Ala Ser Arg Val Met Gly Thr Asn Asp Gly Lys Ala Leu Leu Pro Ala
260 265 270

Val Arg Thr Leu Lys Pro Pro Gly Arg Ala Asp Leu Leu Tyr Ala Ala
275 280 285

Asp Ser Pro Asp Phe Cys Ala Pro Asn Arg Arg Thr Gly Ser Pro Gly
290 295 300

Thr Arg Gly Arg Ala Cys Asn Ser Ser Ala Pro Asp Leu Ser Gly Cys
305 310 315 320

Asp Leu Leu Cys Cys Gly Arg Gly His Arg Gln Glu Ser Val Gln Leu
325 330 335

Glu Glu Asn Cys Leu Cys Arg Phe His Trp Cys Cys Val Val Gln Cys
340 345 350

His Arg Cys Arg Val Arg Lys Glu Leu Ser Leu Cys Leu
355 360 365

<210> 247

<211> 899

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (77)..(493)

<400> 247

gtgcgcgttg gggcggccgg ccaatgccgg accgcttcgg caccgcccgc ccgatccctc 60

caccctgtggg ccggca atg gcg ggc gca gtt tcg ctc ttg ggt gtg gtg ggg 112

Met Ala Gly Ala Val Ser Leu Leu Gly Val Val Gly

1

5

10

ctg ctg ctt gtg tct gcg ctg tcc ggg gtc cta gga gac cgc gcc aat 160

Leu Leu Leu Val Ser Ala Leu Ser Gly Val Leu Gly Asp Arg Ala Asn

15

20

25

ccc gac ctc cgg gca cac cca ggg aac gca gcc cac ccc ggc tct gga 208

Pro Asp Leu Arg Ala His Pro Gly Asn Ala Ala His Pro Gly Ser Gly

30

35

40

gcc acg gaa ccc cgg cgg cga cca ccg ctc aag gat caa cgc gag cgg 256

Ala Thr Glu Pro Arg Arg Arg Pro Pro Leu Lys Asp Gln Arg Glu Arg

45

50

55

60

acc cgg gcc ggg tcg ctg cct ctg ggg gcg ctg tac acc gcg gcc gtc 304

Thr Arg Ala Gly Ser Leu Pro Leu Gly Ala Leu Tyr Thr Ala Ala Val

65

70

75

gcg gct ttt gtg ctg tac aag tgt ttg cag ggg aaa gat gaa act gcg 352

Ala Ala Phe Val Leu Tyr Lys Cys Leu Gln Gly Lys Asp Glu Thr Ala

80

85

90

gtt ctc cac gag gag gca agc aag cag cag cca ctg cag tca gag caa 400
Val Leu His Glu Glu Ala Ser Lys Gln Gln Pro Leu Gln Ser Glu Gln
95 100 105

cag ctg gcc cag ttg aca caa cag ctg gcc cag aca gag cag cac ctg 448
Gln Leu Ala Gln Leu Thr Gln Gln Leu Ala Gln Thr Glu Gln His Leu
110 115 120

aac aac ctg atg gcc cag ctg gac ccc ctt ttt gag cgg agc ttc 493
Asn Asn Leu Met Ala Gln Leu Asp Pro Leu Phe Glu Arg Ser Phe
125 130 135

tgaacatgaa gctatggacc atccacgagc tgctgcaaga tagcaagccg gacaaggata 553

tggaggcttc agaaccaggt gaaggctcgg gaggcgagtc tgctggaggt ggagacaaag 613

tctctgaaac tggaacattc ctgatctctc cccacacaga ggccagcaga cctcttcctg 673

aggacttctg tttaaaggag gacgaggagg aggttggtga cagtcaggcc tgggaggagc 733

ccacaaactg gagcacagag acatggaacc tagctacttc ctgggaggtg gggcggggac 793

tacggagaag gtgcagccag gctgtggcaa agggccccag tcacagcctt ggctgggaag 853

gagggacgac agctgaaggt cgactaaaac aaagtctgtt ttcattg 899

<211> 139

<212> PRT

<213> Homo sapiens

<400> 248

Met Ala Gly Ala Val Ser Leu Leu Gly Val Val Gly Leu Leu Leu Val

1 5 10 15

Ser Ala Leu Ser Gly Val Leu Gly Asp Arg Ala Asn Pro Asp Leu Arg

20 25 30

Ala His Pro Gly Asn Ala Ala His Pro Gly Ser Gly Ala Thr Glu Pro

35 40 45

Arg Arg Arg Pro Pro Leu Lys Asp Gln Arg Glu Arg Thr Arg Ala Gly

50 55 60

Ser Leu Pro Leu Gly Ala Leu Tyr Thr Ala Ala Val Ala Ala Phe Val

65 70 75 80

Leu Tyr Lys Cys Leu Gln Gly Lys Asp Glu Thr Ala Val Leu His Glu

85 90 95

Glu Ala Ser Lys Gln Gln Pro Leu Gln Ser Glu Gln Gln Leu Ala Gln

100 105 110

Leu Thr Gln Gln Leu Ala Gln Thr Glu Gln His Leu Asn Asn Leu Met

115 120 125

Ala Gln Leu Asp Pro Leu Phe Glu Arg Ser Phe

130

135

<210> 249

<211> 1874

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (156)..(818)

<400> 249

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ctcgctcgct ctgcttcct gctgccggct gcgcc atg gcg ttg gcg ttg gcg 173

Met Ala Leu Ala Leu Ala

1

5

gcg ctg gcg gcg gtc gag ccg gcc tgc ggc agc cgg tac tgg cag ttg 221

Ala Leu Ala Ala Val Glu Pro Ala Cys Gly Ser Arg Tyr Trp Gln Leu

10

15

20

cag aat gaa gaa gag tct gga gaa cct gaa cag gct gca ggt gat gct 269

Gln Asn Glu Glu Glu Ser Gly Glu Pro Glu Gln Ala Ala Gly Asp Ala

25

30

35

cct cca cct tac agc agc att tct gca gag agc gca gca tat ttt gac 317

Pro Pro Pro Tyr Ser Ser Ile Ser Ala Glu Ser Ala Ala Tyr Phe Asp

40

45

50

tac aag gat gag tct ggg ttt cca aag ccc cca tct tac aat gta gct 365

Tyr Lys Asp Glu Ser Gly Phe Pro Lys Pro Pro Ser Tyr Asn Val Ala

55

60

65

70

aca aca ctg ccc agt tat gat gaa gcg gag agg acc aag gct gaa gct 413

Thr Thr Leu Pro Ser Tyr Asp Glu Ala Glu Arg Thr Lys Ala Glu Ala

75

80

85

act atc cct ttg gtt cct ggg aga gat gag gat ttt gtg ggt cgg gat 461

Thr Ile Pro Leu Val Pro Gly Arg Asp Glu Asp Phe Val Gly Arg Asp

90

95

100

gat ctt gat gat gct gac cag ctg agg ata gga aat gat ggg att ttc 509

Asp Leu Asp Asp Ala Asp Gln Leu Arg Ile Gly Asn Asp Gly Ile Phe

105

110

115

atg tta act ttt ttc atg gca ttc ctc ttt aac tgg att ggg ttt ttc 557

Met Leu Thr Phe Phe Met Ala Phe Leu Phe Asn Trp Ile Gly Phe Phe

120

125

130

ctg tct ttt tgc ctg acc act tca gct gca gga agg tat ggg gcc att 605

Leu Ser Phe Cys Leu Thr Thr Ser Ala Ala Gly Arg Tyr Gly Ala Ile

135

140

145

150

tca gga ttt ggt ctc tct cta att aaa tgg atc ctg att gtc agg ttt 653
 Ser Gly Phe Gly Leu Ser Leu Ile Lys Trp Ile Leu Ile Val Arg Phe
 155 160 165

tcc acc tat ttc cct gga tat ttt gat ggt cag tac tgg ctc tgg tgg 701
 Ser Thr Tyr Phe Pro Gly Tyr Phe Asp Gly Gln Tyr Trp Leu Trp Trp
 170 175 180

gtg ttc ctt gtt tta ggc ttt ctc ctg ttt ctc aga gga ttt atc aat 749
 Val Phe Leu Val Leu Gly Phe Leu Leu Phe Leu Arg Gly Phe Ile Asn
 185 190 195

tat gca aaa gtt cgg aag atg cca gaa act ttc tca aat ctc ccc agg 797
 Tyr Ala Lys Val Arg Lys Met Pro Glu Thr Phe Ser Asn Leu Pro Arg
 200 205 210

acc aga gtt ctc ttt att tat taaagatggt ttctggcaaa ggccttcctg 848
 Thr Arg Val Leu Phe Ile Tyr
 215 220

catttatgaa ttctctctca agaagcaaga gaacacctgc aggaagtga tcaagatgca 908

gaacacagag gaataatcac ctgcttttaa aaaataaagt actgttgaaa agatcatttc 968

tctctatttg ttcttaggtg taaaatttta atagttaatg cagaattctg taatcattga 1028

atcattagtg gttaatgttt gaaaaagctc ttgcaatcaa gtctgtgatg tattaataat 1088

gccttatata ttgtttgtag tcattttaag tagcatgagc catgtccctg tagtcggtag 1148

ggggcagtct tgctttatc atcctccatc tcaaaatgaa cttggaatta aatattgtaa 1208

gatatgtata atgctggcca ttttaaagg gttttctcaa aagttaaact tttgttatga 1268

ctgtgttttt gcacataatc catatttgct gttcaagtta atctagaaat ttattcaatt 1328

ctgtatgaac acctggaagc aaaatcatag tgcaaaaata catttaaggt gtgggtcaaaa 1388

ataagtcttt aattggtaaa taatgagcat taatttttta tagcctgtat tcacaattct 1448

gcggtacctt attgtaccta aggattcta aagggtgtgt cactgtataa aacagaaagc 1508

actaggatac aaatgaagct taattactaa aatgtaattc ttgacactct ttctataatt 1568

agcgttcttc acccccaccc ccacccccca ccccccttat tttccttttg tctcctgggtg 1628

attaggccaa agtctgggag taaggagagg attaggtact taggagcaaa gaaagaagta 1688

gcttggaact tttgagatga tccctaacat actgtactac ttgcttttac aatgtgttag 1748

cagaaaccag tgggttataa tgtagaatga tgtgctttct gcccaagtgg taattcatct 1808

tggtttgcta tgttaaaact gtaaatacaa cagaacatta ataaatatct cttgtgtagc 1868

accttt 1874

<211> 221

<212> PRT

<213> Homo sapiens

<400> 250

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5

10

15

Ser Arg Tyr Trp Gln Leu Gln Asn Glu Glu Glu Ser Gly Glu Pro Glu

20

25

30

Gln Ala Ala Gly Asp Ala Pro Pro Pro Tyr Ser Ser Ile Ser Ala Glu

35

40

45

Ser Ala Ala Tyr Phe Asp Tyr Lys Asp Glu Ser Gly Phe Pro Lys Pro

50

55

60

Pro Ser Tyr Asn Val Ala Thr Thr Leu Pro Ser Tyr Asp Glu Ala Glu

65

70

75

80

Arg Thr Lys Ala Glu Ala Thr Ile Pro Leu Val Pro Gly Arg Asp Glu

85

90

95

Asp Phe Val Gly Arg Asp Asp Leu Asp Asp Ala Asp Gln Leu Arg Ile

100

105

110

Gly Asn Asp Gly Ile Phe Met Leu Thr Phe Phe Met Ala Phe Leu Phe

115

120

125

Asn Trp Ile Gly Phe Phe Leu Ser Phe Cys Leu Thr Thr Ser Ala Ala
 130 135 140

Gly Arg Tyr Gly Ala Ile Ser Gly Phe Gly Leu Ser Leu Ile Lys Trp
 145 150 155 160

Ile Leu Ile Val Arg Phe Ser Thr Tyr Phe Pro Gly Tyr Phe Asp Gly
 165 170 175

Gln Tyr Trp Leu Trp Trp Val Phe Leu Val Leu Gly Phe Leu Leu Phe
 180 185 190

Leu Arg Gly Phe Ile Asn Tyr Ala Lys Val Arg Lys Met Pro Glu Thr
 195 200 205

Phe Ser Asn Leu Pro Arg Thr Arg Val Leu Phe Ile Tyr
 210 215 220

<210> 251

<211> 1463

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (78)..(587)

<400> 251

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ccctgttcca agcagcg atg cct ggc gga gcc tgc gtg ctg gtg atc gcg 110

Met Pro Gly Gly Ala Cys Val Leu Val Ile Ala

1

5

10

ctg atg ttc ctg gcc tgg ggg gaa gct cag gag tgc tct cct ggg gga 158

Leu Met Phe Leu Ala Trp Gly Glu Ala Gln Glu Cys Ser Pro Gly Gly

15

20

25

cac cag ttt ctt cgg agt cct tat aga agt gtc cgt ttt gac tca tgg 206

His Gln Phe Leu Arg Ser Pro Tyr Arg Ser Val Arg Phe Asp Ser Trp

30

35

40

cac ctc cag cag tca gct gtt caa gac cta ata tgt gac cat tcc ctc 254

His Leu Gln Gln Ser Ala Val Gln Asp Leu Ile Cys Asp His Ser Leu

45

50

55

tcc cct gga tgg tat aga ttt ctc atc ctt gac aga cct gcc gag atg 302

Ser Pro Gly Trp Tyr Arg Phe Leu Ile Leu Asp Arg Pro Ala Glu Met

60

65

70

75

cca acc aaa tgt gtt gag atg aac cat tgt gga act cag gcc ccc atc 350

Pro Thr Lys Cys Val Glu Met Asn His Cys Gly Thr Gln Ala Pro Ile

80

85

90

tgg ctg tct ctg aga gat tca gaa aca ctg cca tct cct ggg gag atc 398

Trp Leu Ser Leu Arg Asp Ser Glu Thr Leu Pro Ser Pro Gly Glu Ile

95

100

105

aag caa ttg aca gct tgt gca aca tgg cag ttt ttg ttc agc act aca 446

Lys Gln Leu Thr Ala Cys Ala Thr Trp Gln Phe Leu Phe Ser Thr Thr

110

115

120

aaa gac tgc tgt ctc ttt caa atc cca gtg tct gta aga aac tgt ggg 494

Lys Asp Cys Cys Leu Phe Gln Ile Pro Val Ser Val Arg Asn Cys Gly

125

130

135

aac ttt tct gta tac tta cta caa cca act cag gga tgt atg ggc tac 542

Asn Phe Ser Val Tyr Leu Leu Gln Pro Thr Gln Gly Cys Met Gly Tyr

140

145

150

155

tgt gcg gaa ggg ttc ttt gcc aag att gta aag tcc ccc cac acg 587

Cys Ala Glu Gly Phe Phe Ala Lys Ile Val Lys Ser Pro His Thr

160

165

170

tgaaagcatc aaaacagaca tctcacattt ttccactgga cataatgatt gagtgtgtta 647

aaaattcttt ggtttcctca agtccattcc tgttttaatt aaaggatgaa gaaggctatt 707

tctgatgcac gattacaccc atgtggttct gatgaaactg aaacaggagg tgattgtgtt 767

cgtcagctgg ctgcctcatt gccacctcca cctgcaggaa ggccagaggt tctggtggag 827

ttgattgagt ccaggctttt ctgtaggtgt tcttttgatg ttcccgtac aaaaaactca 887

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caagagacca cagttcaggc attctctctt ttagaacttg atggcataaa tctcagactt 1007

ggagacagga tattctgcag cgcttctgtc tttttcttgg agaatectca tgtacaaagt 1067

gtagccatcg aaagccaaga attttttgca ggcattaagc tacagcctga attgagcact 1127

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tctgaattta gtgagcttga tcaagaatgc aaaatctcat taaaactgaa aactattgat 1247

caaghtaata tactaacttt attttatctt attattagat tgcaaacaat aatgcttttt 1307

tttctgtag gaaaagtcac tggagtgtac tcatataata aatcatgttg catgttgaca 1367

tcaaatttta gcccaatcat attactaata ctgggcaaaa ctgacgattg ccaaagcaat 1427

tcacatttct tcttcttggc cgaaagcata catttt 1463

<210> 252

<211> 170

<212> PRT

<213> Homo sapiens

<400> 252

Met Pro Gly Gly Ala Cys Val Leu Val Ile Ala Leu Met Phe Leu Ala

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Trp Gly Glu Ala Gln Glu Cys Ser Pro Gly Gly His Gln Phe Leu Arg

20

25

30

Ser Pro Tyr Arg Ser Val Arg Phe Asp Ser Trp His Leu Gln Gln Ser

35

40

45

Ala Val Gln Asp Leu Ile Cys Asp His Ser Leu Ser Pro Gly Trp Tyr

50

55

60

Arg Phe Leu Ile Leu Asp Arg Pro Ala Glu Met Pro Thr Lys Cys Val

65

70

75

80

Glu Met Asn His Cys Gly Thr Gln Ala Pro Ile Trp Leu Ser Leu Arg

85

90

95

Asp Ser Glu Thr Leu Pro Ser Pro Gly Glu Ile Lys Gln Leu Thr Ala

100

105

110

Cys Ala Thr Trp Gln Phe Leu Phe Ser Thr Thr Lys Asp Cys Cys Leu

115

120

125

Phe Gln Ile Pro Val Ser Val Arg Asn Cys Gly Asn Phe Ser Val Tyr

130

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140

Leu Leu Gln Pro Thr Gln Gly Cys Met Gly Tyr Cys Ala Glu Gly Phe

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160

Phe Ala Lys Ile Val Lys Ser Pro His Thr

165

170

<210> 253
 <211> 2103
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (50)..(1480)

<400> 253
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Met Trp Gly

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 Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly Pro Ala Leu

5

10

15

ggg gcg ccc agg aac tcg gtg ctg ggc ctc gcg cag ccc ggg acc acc 154
 Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro Gly Thr Thr

20

25

30

35

aag gtc cca ggc tcg acc ccg gcc ctg cat agc agc ccg gca cag ccg 202
 Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro Ala Gln Pro

40

45

50

ccg gcg gag aca gct aac ggg acc tca gaa cag cat gtc cgg att cga 250
 Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val Arg Ile Arg

55

60

65

gtc atc aag aag aaa aag gtc att atg aag aag cgg aag aag cta act 298

Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys Lys Leu Thr

70

75

80

cta act cgc ccc acc cca ctg gtg act gcc ggg ccc ctt gtg acc ccc 346

Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu Val Thr Pro

85

90

95

act cca gca ggg acc ctc gac ccc gct gag aaa caa gaa aca ggc tgt 394

Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu Thr Gly Cys

100

105

110

115

cct cct ttg ggt ctg gag tcc ctg cga gtt tca gat agc cgg ctt gag 442

Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser Arg Leu Glu

120

125

130

gca tcc agc agc cag tcc ttt ggt ctt gga cca cac cga gga cgg ctc 490

Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg Gly Arg Leu

135

140

145

aac att cag tca ggc ctg gag gac ggc gat cta tat gat gga gcc tgg 538

Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp Gly Ala Trp

150

155

160

tgt gct gag gag cag gac gcc gat cca tgg ttt cag gtg gac gct ggg 586

Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val Asp Ala Gly

165

170

175

cac ccc acc cgc ttc tcg ggt gtt atc aca cag ggc agg aac tct gtc 634

His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg Asn Ser Val

180 185 190 195

tgg agg tat gac tgg gtc aca tca tac aag gtc cag ttc agc aat gac 682

Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe Ser Asn Asp

200 205 210

agt cgg acc tgg tgg gga agt agg aac cac agc agt ggg atg gac gca 730

Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly Met Asp Ala

215 220 225

gta ttt cct gcc aat tca gac cca gaa act cca gtg ctg aac ctc ctg 778

Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu Asn Leu Leu

230 235 240

ccg gag ccc cag gtg gcc cgc ttc att cgc ctg ctg ccc cag acc tgg 826

Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro Gln Thr Trp

245 250 255

ctc cag gga ggc gcg cct tgc ctc cgg gca gag atc ctg gcc tgc cca 874

Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu Ala Cys Pro

260 265 270 275

gtc tca gac ccc aat gac cta ttc ctt gag gcc cct gcg tcg gga tcc 922

Val Ser Asp Pro Asn Asp Leu Phe Leu Glu Ala Pro Ala Ser Gly Ser

280 285 290

tct gac cct cta gac ttt cag cat cac aat tac aag gcc atg agg aag 970
 Ser Asp Pro Leu Asp Phe Gln His His Asn Tyr Lys Ala Met Arg Lys
 295 300 305

ctg atg aag cag gta caa gag caa tgc ccc aac atc acc cgc atc tac 1018
 Leu Met Lys Gln Val Gln Glu Gln Cys Pro Asn Ile Thr Arg Ile Tyr
 310 315 320

agc att ggg aag agc tac cag ggc ctg aag ctg tat gtg atg gaa atg 1066
 Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val Met Glu Met
 325 330 335

tgc gac aag cct ggg gag cat gag ctg ggg gag cct gag gtg cgc tac 1114
 Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu Val Arg Tyr
 340 345 350 355

gtg gct ggc atg cat ggg aac gag gcc ctg ggg cgg gag ttg ctt ctg 1162
 Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu Leu Leu Leu
 360 365 370

ctc ctg atg cag ttc ctg tgc cat gag ttc ctg cga ggg aac cca cgg 1210
 Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly Asn Pro Arg
 375 380 385

gtg acc cgg ctg ctc tct gag atg cgc att cac ctg ctg ccc tcc atg 1258
 Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu Pro Ser Met
 390 395 400

aac cct gat ggc tat gag atc gcc tac cac cgg ggt tca gag ctg gtg 1306

Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser Glu Leu Val
405 410 415

ggc tgg gcc gag ggc cgc tgg aac aac cag agc atc gat ctt aac cat 1354
Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp Leu Asn His
420 425 430 435

aat ttt gct gac ctc aac aca cca ctg tgg gaa gca cag gac gat ggg 1402
Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln Asp Asp Gly
440 445 450

aag gtg ccc cac atc gtc ccc aac cat cac ctg cca cag cca gga ctt 1450
Lys Val Pro His Ile Val Pro Asn His His Leu Pro Gln Pro Gly Leu
455 460 465

ctc cgt gca cgg caa cat cat caa cgg ggc tgactggcac acggtccccg 1500
Leu Arg Ala Arg Gln His His Gln Arg Gly
470 475

ggagcatgaa tgacttcagc tacctacaca ccaactgctt tgaggtcact gtggagctgt 1560

cctgtgacaa gttccctcac gagaatgaat tgccccagga gtgggagAAC aacaaagacg 1620

ccctcctcac ctacctggag caggtgcgca tgggcattgc aggagtgggtg agggacaagg 1680

acacggagct tgggattgct gacgctgtca ttgccgtgga tgggattaac catgacgtga 1740

ccacggcgtg gggcggggat tattggcgtc tgctgacccc aggggactac atggtgactg 1800

ccagtgccga gggctacat tcagtacac ggaactgtcg ggtcaccttt gaagagggcc 1860

ccttcccctg caatttcgtg ctcaccaaga ctcccaaaca gaggctgcgc gagctgctgg 1920

cagctggggc caaggtgccc ccggaccttc gcaggcgcct ggagcggcta aggggacaga 1980

aggattgata cctgcggttt aagagcccta gggcaggctg gacctgtcaa gacgggaagg 2040

ggaagagtag tgagggaggg acaaagttag gaaaaggtgc tcattaaagc taccgggcac 2100

ctt 2103

<210> 254

<211> 477

<212> PRT

<213> Homo sapiens

<400> 254

Met Trp Gly Leu Leu Leu Ala Leu Ala Ala Phe Ala Pro Ala Val Gly

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Pro Ala Leu Gly Ala Pro Arg Asn Ser Val Leu Gly Leu Ala Gln Pro

20 25 30

Gly Thr Thr Lys Val Pro Gly Ser Thr Pro Ala Leu His Ser Ser Pro

35 40 45

Ala Gln Pro Pro Ala Glu Thr Ala Asn Gly Thr Ser Glu Gln His Val

50

55

60

Arg Ile Arg Val Ile Lys Lys Lys Lys Val Ile Met Lys Lys Arg Lys

65

70

75

80

Lys Leu Thr Leu Thr Arg Pro Thr Pro Leu Val Thr Ala Gly Pro Leu

85

90

95

Val Thr Pro Thr Pro Ala Gly Thr Leu Asp Pro Ala Glu Lys Gln Glu

100

105

110

Thr Gly Cys Pro Pro Leu Gly Leu Glu Ser Leu Arg Val Ser Asp Ser

115

120

125

Arg Leu Glu Ala Ser Ser Ser Gln Ser Phe Gly Leu Gly Pro His Arg

130

135

140

Gly Arg Leu Asn Ile Gln Ser Gly Leu Glu Asp Gly Asp Leu Tyr Asp

145

150

155

160

Gly Ala Trp Cys Ala Glu Glu Gln Asp Ala Asp Pro Trp Phe Gln Val

165

170

175

Asp Ala Gly His Pro Thr Arg Phe Ser Gly Val Ile Thr Gln Gly Arg

180

185

190

Asn Ser Val Trp Arg Tyr Asp Trp Val Thr Ser Tyr Lys Val Gln Phe

195

200

205

Ser Asn Asp Ser Arg Thr Trp Trp Gly Ser Arg Asn His Ser Ser Gly
210 215 220

Met Asp Ala Val Phe Pro Ala Asn Ser Asp Pro Glu Thr Pro Val Leu
225 230 235 240

Asn Leu Leu Pro Glu Pro Gln Val Ala Arg Phe Ile Arg Leu Leu Pro
245 250 255

Gln Thr Trp Leu Gln Gly Gly Ala Pro Cys Leu Arg Ala Glu Ile Leu
260 265 270

Ala Cys Pro Val Ser Asp Pro Asn Asp Leu Phe Leu Glu Ala Pro Ala
275 280 285

Ser Gly Ser Ser Asp Pro Leu Asp Phe Gln His His Asn Tyr Lys Ala
290 295 300

Met Arg Lys Leu Met Lys Gln Val Gln Glu Gln Cys Pro Asn Ile Thr
305 310 315 320

Arg Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val
325 330 335

Met Glu Met Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu
340 345 350

Val Arg Tyr Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu
355 360 365

Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly

370

375

380

Asn Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu

385

390

395

400

Pro Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser

405

410

415

Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp

420

425

430

Leu Asn His Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln

435

440

445

Asp Asp Gly Lys Val Pro His Ile Val Pro Asn His His Leu Pro Gln

450

455

460

Pro Gly Leu Leu Arg Ala Arg Gln His His Gln Arg Gly

465

470

475

<210> 255

<211> 1410

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (130)..(1266)

<400> 255

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tcaaccccgg tagacctgga ggtgaagctg cggatcgccc aaggcctaag cagcgagagc 120

tggtccatc atg aag aac atg gcc acg gag ctg ggc atc atc ctc atc ggc 171

Met Lys Asn Met Ala Thr Glu Leu Gly Ile Ile Leu Ile Gly

1

5

10

tac ttc acc cta gtg ccc gcc atc cag gag ttc tgt ctc ttt gct gtc 219

Tyr Phe Thr Leu Val Pro Ala Ile Gln Glu Phe Cys Leu Phe Ala Val

15

20

25

30

gtg ggg ctg gtg act gac ttc ttc ctt cag atg ctg ttt ttc acc act 267

Val Gly Leu Val Thr Asp Phe Phe Leu Gln Met Leu Phe Phe Thr Thr

35

40

45

gtc ctg tcc att gac att cgc cgg atg gag cta gca gac ctg aac aag 315

Val Leu Ser Ile Asp Ile Arg Arg Met Glu Leu Ala Asp Leu Asn Lys

50

55

60

cga ctg ccc cct gag gcc tgc ctg ccc tca gcc aag cca gtg ggg cag 363

Arg Leu Pro Pro Glu Ala Cys Leu Pro Ser Ala Lys Pro Val Gly Gln

65

70

75

cca acg cgc tac gag cgg agc agc ggc cgg ctg gag gtg tgg gac tcc 411

Pro Thr Arg Tyr Glu Arg Ser Ser Gly Arg Leu Glu Val Trp Asp Ser
80 85 90

att gaa ggg gtg ctg tgc tgc agc agc gag gag gtc tcc tca ggc att 459
Ile Glu Gly Val Leu Cys Cys Ser Ser Glu Glu Val Ser Ser Gly Ile
95 100 105 110

acc gct ctg gtg ttc ttg gac aaa ggg att gtg gct gca cgg ctc aac 507
Thr Ala Leu Val Phe Leu Asp Lys Gly Ile Val Ala Ala Arg Leu Asn
115 120 125

ggt tcc ctt gat ttc ttc tcc ttg gag acc cac act gcc ctc agc ccc 555
Gly Ser Leu Asp Phe Phe Ser Leu Glu Thr His Thr Ala Leu Ser Pro
130 135 140

ctg cag ttt aga ggg acc cca ggg cgg ggc agt tcc cct gcc tct cca 603
Leu Gln Phe Arg Gly Thr Pro Gly Arg Gly Ser Ser Pro Ala Ser Pro
145 150 155

gtg tac agc agc agc gac aca gtg gcc tgt cac ctg acc cac aca gtg 651
Val Tyr Ser Ser Ser Asp Thr Val Ala Cys His Leu Thr His Thr Val
160 165 170

ccc tgt gca cac caa aaa ccc atc aca gcc ctg aaa gcc gct gct ggg 699
Pro Cys Ala His Gln Lys Pro Ile Thr Ala Leu Lys Ala Ala Ala Gly
175 180 185 190

cgc ttg gtg act ggg agc caa gac cac aca ctg aga gtg ttc cgt ctg 747
Arg Leu Val Thr Gly Ser Gln Asp His Thr Leu Arg Val Phe Arg Leu

195	200	205	
gag gac tcg tgc tgc ctc ttc acc ctt cag ggc cac tca ggg gcc atc			795
Glu Asp Ser Cys Cys Leu Phe Thr Leu Gln Gly His Ser Gly Ala Ile			
210	215	220	
acg acc gtg tac att gac cag acc atg gtg ctg gcc agt gga gga caa			843
Thr Thr Val Tyr Ile Asp Gln Thr Met Val Leu Ala Ser Gly Gly Gln			
225	230	235	
gat ggg gcc atc tgc ctg tgg gat gta ctg act ggc agc cgg gtc agc			891
Asp Gly Ala Ile Cys Leu Trp Asp Val Leu Thr Gly Ser Arg Val Ser			
240	245	250	
cat gtg ttt gct cac cgt ggg gat gtc acc tcc ctt acc tgt acc acc			939
His Val Phe Ala His Arg Gly Asp Val Thr Ser Leu Thr Cys Thr Thr			
255	260	265	270
tcc tgt gtc atc agc agt ggc ctg gat gac ctc atc agc atc tgg gac			987
Ser Cys Val Ile Ser Ser Gly Leu Asp Asp Leu Ile Ser Ile Trp Asp			
275	280	285	
cgc agc aca ggc atc aag ttc tac tcc att cag cag gac ctg ggc tgt			1035
Arg Ser Thr Gly Ile Lys Phe Tyr Ser Ile Gln Gln Asp Leu Gly Cys			
290	295	300	
ggt gca agc ttg ggt gtc atc tca gac aac ctg ctg gtg act ggc ggc			1083
Gly Ala Ser Leu Gly Val Ile Ser Asp Asn Leu Leu Val Thr Gly Gly			
305	310	315	

cag ggc tgt gtc tcc ttt tgg gac cta aac tac ggg gac ctg tta cag 1131

Gln Gly Cys Val Ser Phe Trp Asp Leu Asn Tyr Gly Asp Leu Leu Gln

320

325

330

aca gtc tac ctg ggg aag aac agt gag gcc cag cct gcc cgc cag atc 1179

Thr Val Tyr Leu Gly Lys Asn Ser Glu Ala Gln Pro Ala Arg Gln Ile

335

340

345

350

ctg gtg ctg gac aac gct gcc att gtc tgc aac ttt ggc agt gag ctc 1227

Leu Val Leu Asp Asn Ala Ala Ile Val Cys Asn Phe Gly Ser Glu Leu

355

360

365

agc ctg gtg tat gtg ccc tct gtg ctg gag aag ctg gac tgagcgcagg 1276

Ser Leu Val Tyr Val Pro Ser Val Leu Glu Lys Leu Asp

370

375

gcctccttgc ccaggcagga ggctgggggtg ctgtgtgggg gccaatgcac tgaacctgga 1336

cttgggggaa agagccgagt atcttcagc cgctgcctcc tgactgtaat aatattaaac 1396

ttttttaaaa aacc

1410

<210> 256

<211> 379

<212> PRT

<213> Homo sapiens

<400> 256

Met Lys Asn Met Ala Thr Glu Leu Gly Ile Ile Leu Ile Gly Tyr Phe

1 5 10 15

Thr Leu Val Pro Ala Ile Gln Glu Phe Cys Leu Phe Ala Val Val Gly

20 25 30

Leu Val Thr Asp Phe Phe Leu Gln Met Leu Phe Phe Thr Thr Val Leu

35 40 45

Ser Ile Asp Ile Arg Arg Met Glu Leu Ala Asp Leu Asn Lys Arg Leu

50 55 60

Pro Pro Glu Ala Cys Leu Pro Ser Ala Lys Pro Val Gly Gln Pro Thr

65 70 75 80

Arg Tyr Glu Arg Ser Ser Gly Arg Leu Glu Val Trp Asp Ser Ile Glu

85 90 95

Gly Val Leu Cys Cys Ser Ser Glu Glu Val Ser Ser Gly Ile Thr Ala

100 105 110

Leu Val Phe Leu Asp Lys Gly Ile Val Ala Ala Arg Leu Asn Gly Ser

115 120 125

Leu Asp Phe Phe Ser Leu Glu Thr His Thr Ala Leu Ser Pro Leu Gln

130 135 140

Phe Arg Gly Thr Pro Gly Arg Gly Ser Ser Pro Ala Ser Pro Val Tyr

145	150	155	160
Ser Ser Ser Asp Thr Val Ala Cys His Leu Thr His Thr Val Pro Cys			
	165	170	175
Ala His Gln Lys Pro Ile Thr Ala Leu Lys Ala Ala Ala Gly Arg Leu			
	180	185	190
Val Thr Gly Ser Gln Asp His Thr Leu Arg Val Phe Arg Leu Glu Asp			
	195	200	205
Ser Cys Cys Leu Phe Thr Leu Gln Gly His Ser Gly Ala Ile Thr Thr			
	210	215	220
Val Tyr Ile Asp Gln Thr Met Val Leu Ala Ser Gly Gly Gln Asp Gly			
225	230	235	240
Ala Ile Cys Leu Trp Asp Val Leu Thr Gly Ser Arg Val Ser His Val			
	245	250	255
Phe Ala His Arg Gly Asp Val Thr Ser Leu Thr Cys Thr Thr Ser Cys			
	260	265	270
Val Ile Ser Ser Gly Leu Asp Asp Leu Ile Ser Ile Trp Asp Arg Ser			
	275	280	285
Thr Gly Ile Lys Phe Tyr Ser Ile Gln Gln Asp Leu Gly Cys Gly Ala			
	290	295	300

Ser Leu Gly Val Ile Ser Asp Asn Leu Leu Val Thr Gly Gly Gln Gly
305 310 315 320

Cys Val Ser Phe Trp Asp Leu Asn Tyr Gly Asp Leu Leu Gln Thr Val
325 330 335

Tyr Leu Gly Lys Asn Ser Glu Ala Gln Pro Ala Arg Gln Ile Leu Val
340 345 350

Leu Asp Asn Ala Ala Ile Val Cys Asn Phe Gly Ser Glu Leu Ser Leu
355 360 365

Val Tyr Val Pro Ser Val Leu Glu Lys Leu Asp
370 375

<210> 257

<211> 1483

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (92)..(529)

<400> 257

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ccgcgccct cgagacggga ccgagagcat c atg ggc agc act gtc ccg cgc 112

Met Gly Ser Thr Val Pro Arg

1

5

tcc gcc tcc gtg ctg ctt ctg ctg ctg ctc ctg cgc cgg gcc gag cag 160

Ser Ala Ser Val Leu Leu Leu Leu Leu Leu Leu Arg Arg Ala Glu Gln

10

15

20

ccc tgc ggg gcc gag ctc acc ttc gag ctg ccg gac aac gcc aag cag 208

Pro Cys Gly Ala Glu Leu Thr Phe Glu Leu Pro Asp Asn Ala Lys Gln

25

30

35

tgc ttc cac gag gag gtg gag cag ggc gtg aag ttc tcc ctg gat tac 256

Cys Phe His Glu Glu Val Glu Gln Gly Val Lys Phe Ser Leu Asp Tyr

40

45

50

55

cag gtc atc act gga ggc cac tac gat gtt gac tgc tat gta gag gac 304

Gln Val Ile Thr Gly Gly His Tyr Asp Val Asp Cys Tyr Val Glu Asp

60

65

70

ccc cag ggg aac acc atc tac aga gaa acg aag aag cag tac gac agc 352

Pro Gln Gly Asn Thr Ile Tyr Arg Glu Thr Lys Lys Gln Tyr Asp Ser

75

80

85

ttc acg tac cgg gct gaa gtc aag ggc gtt tat cag ttt tgc ttc agt 400

Phe Thr Tyr Arg Ala Glu Val Lys Gly Val Tyr Gln Phe Cys Phe Ser

90

95

100

aat ggg ttt tcc acc ttc tct cac aag acc gtc tac ttt gac ttt caa 448

Asn Gly Phe Ser Thr Phe Ser His Lys Thr Val Tyr Phe Asp Phe Gln

105

110

115

gtg ggc gat gag cct ccc att ctc cca gac atg ggg aac agg gtc aca 496

Val Gly Asp Glu Pro Pro Ile Leu Pro Asp Met Gly Asn Arg Val Thr

120

125

130

135

gct ctc acc cag ggc ttc agg gtc ttc tgc ctg tagctgccaa aggaagagag 549

Ala Leu Thr Gln Gly Phe Arg Val Phe Cys Leu

140

145

aatgagaaaa gcccatctac ctcttaaaag cccaggccca gtgggaatac gtatcacctg 609

ctcatgtccc atggatggag tccgcctgcg tgaccatcca tgaggctctg aaaacgggtga 669

ttgactccca gacgcattac cggctgcggg aggcccagga ccgggcccga gcggaagacc 729

ttaatagccg agtctcttac tggctctgtt gcgagacgat tgccctgttc gtggtcagct 789

tcagtcaggt gctactgttg aaaagcttct tcacagaaaa acgacccatc agcagggcag 849

tccactccta gccccggcat cctgctctag ggccctcat gccccaggct ggagcagctc 909

tcctaggtca cagcctgctg ggctgggtcg cgtagcccag ggtggaggca gaacgatgct 969

gctgtggtag ccctttgcct ttcattgcca tgcttgattc ttgcacctca gcagctgaag 1029

gtctcagaga ccagtaatca gaaggcatcc gactgcatta agtgtgcagc gctgaaaaga 1089

catttacaac taggccaggg attagccact gtgggagggt ggacaggcaa tggttcagtg 1149

gcctggctgt tggcaggaac tccaagtgcc caggcctctt gggcagctta gggccctgcc 1209

tctgtttcat gatgcatggg tcatttgtct tgggtgtcct atcccatatg gagaagaaag 1269

gggctctaag ttctggctct tctttctttg gggttctctg tacctgagga aaccaggccc 1329

tgggtgactt tgcagatctg ctcaccctcg gtgagcaaca gtgtcagcca tgcaagcagg 1389

acagaatggt gactgggtgc ccttggtgag ctgtgtatct cctaggaggt agaaaactgt 1449

gggaaactgt ggctaataaa aactaagtgt gagc 1483

<210> 258

<211> 146

<212> PRT

<213> Homo sapiens

<400> 258

Met Gly Ser Thr Val Pro Arg Ser Ala Ser Val Leu Leu Leu Leu Leu

1 5 10 15

Leu Leu Arg Arg Ala Glu Gln Pro Cys Gly Ala Glu Leu Thr Phe Glu

20 25 30

Leu Pro Asp Asn Ala Lys Gln Cys Phe His Glu Glu Val Glu Gln Gly

35 40 45

Val Lys Phe Ser Leu Asp Tyr Gln Val Ile Thr Gly Gly His Tyr Asp

50

55

60

Val Asp Cys Tyr Val Glu Asp Pro Gln Gly Asn Thr Ile Tyr Arg Glu

65

70

75

80

Thr Lys Lys Gln Tyr Asp Ser Phe Thr Tyr Arg Ala Glu Val Lys Gly

85

90

95

Val Tyr Gln Phe Cys Phe Ser Asn Gly Phe Ser Thr Phe Ser His Lys

100

105

110

Thr Val Tyr Phe Asp Phe Gln Val Gly Asp Glu Pro Pro Ile Leu Pro

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120

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Asp Met Gly Asn Arg Val Thr Ala Leu Thr Gln Gly Phe Arg Val Phe

130

135

140

Cys Leu

145

<210> 259

<211> 1784

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (55)..(867)

<400> 259

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gct tcc gcg gac tcg cgc cgg gtg gca gat ggc ggc ggt gcc ggg ggc	105
Ala Ser Ala Asp Ser Arg Arg Val Ala Asp Gly Gly Gly Ala Gly Gly	
5 10 15	
acc ttc cag ccc tac cta gac acc ttg cgg cag gag ctg cag cag acg	153
Thr Phe Gln Pro Tyr Leu Asp Thr Leu Arg Gln Glu Leu Gln Gln Thr	
20 25 30	
gac cca acg ctg ttg tca gta gtg gtg gcg gtt ctt gcg gtg ctg ctg	201
Asp Pro Thr Leu Leu Ser Val Val Val Ala Val Leu Ala Val Leu Leu	
35 40 45	
acg cta gtc ttc tgg aag tta atc cgg agc aga agg agc agt cag aga	249
Thr Leu Val Phe Trp Lys Leu Ile Arg Ser Arg Arg Ser Ser Gln Arg	
50 55 60 65	
gct gtt ctt ctt gtt ggc ctt tgt gat tcc ggg aaa acg ttg ctc ttt	297
Ala Val Leu Leu Val Gly Leu Cys Asp Ser Gly Lys Thr Leu Leu Phe	
70 75 80	
gtc agg ttg tta aca ggc ctt tat aga gac act cag acg tcc att act	345
Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp Thr Gln Thr Ser Ile Thr	

85

90

95

gac agc tgt gct gta tac aga gtc aac aat aac agg ggc aat agt ctg 393

Asp Ser Cys Ala Val Tyr Arg Val Asn Asn Asn Arg Gly Asn Ser Leu

100

105

110

acc ttg att gac ctt ccc ggc cat gag agt ttg agg ctt cag ttc tta 441

Thr Leu Ile Asp Leu Pro Gly His Glu Ser Leu Arg Leu Gln Phe Leu

115

120

125

gag cgg ttt aag tct tca gcc agg gct att gtg ttt gtt gtg gat agt 489

Glu Arg Phe Lys Ser Ser Ala Arg Ala Ile Val Phe Val Val Asp Ser

130

135

140

145

gca gca ttc cag cga gag gtg aaa gat gtg gct gag ttt ctg tat caa 537

Ala Ala Phe Gln Arg Glu Val Lys Asp Val Ala Glu Phe Leu Tyr Gln

150

155

160

gtc ctc att gac agt atg ggt ctg aag aat aca cca tca ttc tta ata 585

Val Leu Ile Asp Ser Met Gly Leu Lys Asn Thr Pro Ser Phe Leu Ile

165

170

175

gcc tgc aat aag caa gat att gca atg gca aaa tca gca aag tta att 633

Ala Cys Asn Lys Gln Asp Ile Ala Met Ala Lys Ser Ala Lys Leu Ile

180

185

190

caa cag cag ctg gag aaa gaa ctc aac acc tta cga gtt acc cgt tct 681

Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr Leu Arg Val Thr Arg Ser

195

200

205

gct gcc ccc agc aca ctg gac agt tcc agc act gcc cct gct cag ctg 729

Ala Ala Pro Ser Thr Leu Asp Ser Ser Ser Thr Ala Pro Ala Gln Leu

210

215

220

225

ggg aag aaa ggc aaa gag ttt gaa ttc tca cag ttg ccc ctc aaa gtg 777

Gly Lys Lys Gly Lys Glu Phe Glu Phe Ser Gln Leu Pro Leu Lys Val

230

235

240

gag ttc ctg gag tgc agt gcc aag ggt gga aga ggg gac gtg ggc tct 825

Glu Phe Leu Glu Cys Ser Ala Lys Gly Gly Arg Gly Asp Val Gly Ser

245

250

255

gct gac atc cag gac ttg gag aaa tgg ctg gct aaa att gcc 867

Ala Asp Ile Gln Asp Leu Glu Lys Trp Leu Ala Lys Ile Ala

260

265

270

tgagaggcag ctctaaagca caagacctgg atgtgtgaca cacagttttg gaaaaaggctc 927

tgtggtagtc tggagttgat gaggaagggg tacaagatgt ggtagaaac atttctttgt 987

tctggaaaca aagtactgtt gaaaccagct tggaattttt tttttttttt tttttaagtt 1047

cagttctccc ttatggctgc ctttcaaaca agtacctttt atctgatgcc tgtatcttcc 1107

ctttgttaag gtgtaacttg atgtagggtc aaggtttttg tgacaacagg cagactccac 1167

acagagagga tatgatgaga atatggccat cacctgaaaa gttttcttat cttctgtgct 1227

tttggccct ggaaacaaat cgcctatgt atgaagctag ttgattcca gttgcactat 1287
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 tgtgctgctt gaagagctcc tattttgtac tcctggctag aatgctgtgg aacaaatata 1707
 aagtgaaaaa agttctctgt agatttctga agtgcattatt cattgatgcc aagaaaaaaa 1767
 aaaaagttgc ctttttg 1784

<210> 260

<211> 271

<212> PRT

<213> Homo sapiens

<400> 260

Met Ala Ser Ala Asp Ser Arg Arg Val Ala Asp Gly Gly Gly Ala Gly

1

5

10

15

Gly Thr Phe Gln Pro Tyr Leu Asp Thr Leu Arg Gln Glu Leu Gln Gln

20

25

30

Thr Asp Pro Thr Leu Leu Ser Val Val Val Ala Val Leu Ala Val Leu

35

40

45

Leu Thr Leu Val Phe Trp Lys Leu Ile Arg Ser Arg Arg Ser Ser Gln

50

55

60

Arg Ala Val Leu Leu Val Gly Leu Cys Asp Ser Gly Lys Thr Leu Leu

65

70

75

80

Phe Val Arg Leu Leu Thr Gly Leu Tyr Arg Asp Thr Gln Thr Ser Ile

85

90

95

Thr Asp Ser Cys Ala Val Tyr Arg Val Asn Asn Asn Arg Gly Asn Ser

100

105

110

Leu Thr Leu Ile Asp Leu Pro Gly His Glu Ser Leu Arg Leu Gln Phe

115

120

125

Leu Glu Arg Phe Lys Ser Ser Ala Arg Ala Ile Val Phe Val Val Asp

130

135

140

Ser Ala Ala Phe Gln Arg Glu Val Lys Asp Val Ala Glu Phe Leu Tyr

145

150

155

160

Gln Val Leu Ile Asp Ser Met Gly Leu Lys Asn Thr Pro Ser Phe Leu

165

170

175

Ile Ala Cys Asn Lys Gln Asp Ile Ala Met Ala Lys Ser Ala Lys Leu

180

185

190

Ile Gln Gln Gln Leu Glu Lys Glu Leu Asn Thr Leu Arg Val Thr Arg

195

200

205

Ser Ala Ala Pro Ser Thr Leu Asp Ser Ser Ser Thr Ala Pro Ala Gln

210

215

220

Leu Gly Lys Lys Gly Lys Glu Phe Glu Phe Ser Gln Leu Pro Leu Lys

225

230

235

240

Val Glu Phe Leu Glu Cys Ser Ala Lys Gly Gly Arg Gly Asp Val Gly

245

250

255

Ser Ala Asp Ile Gln Asp Leu Glu Lys Trp Leu Ala Lys Ile Ala

260

265

270

<210> 261

<211> 1709

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (89)..(826)

<400> 261

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gggagactct gaggctctgt tgagaatc atg ctt tgg agg cag ctc atc tat 112

Met Leu Trp Arg Gln Leu Ile Tyr

1

5

tgg caa ctg ctg gct ttg ttt ttc ctc cct ttt tgc ctg tgt caa gat 160

Trp Gln Leu Leu Ala Leu Phe Phe Leu Pro Phe Cys Leu Cys Gln Asp

10

15

20

gaa tac atg gag tct cca caa acc gga gga cta ccc cca gac tgc agt 208

Glu Tyr Met Glu Ser Pro Gln Thr Gly Gly Leu Pro Pro Asp Cys Ser

25

30

35

40

aag tgt tgt cat gga gac tac agc ttt cga ggc tac caa ggc ccc cct 256

Lys Cys Cys His Gly Asp Tyr Ser Phe Arg Gly Tyr Gln Gly Pro Pro

45

50

55

ggg cca ccg ggc cct cct ggc att cca gga aac cat gga aac aat ggc 304

Gly Pro Pro Gly Pro Pro Gly Ile Pro Gly Asn His Gly Asn Asn Gly

60

65

70

aac aat gga gcc act ggt cat gaa gga gcc aaa ggt gag aag ggc gac 352

Asn Asn Gly Ala Thr Gly His Glu Gly Ala Lys Gly Glu Lys Gly Asp

75

80

85

aaa ggt gac ctg ggg cct cga ggg gag cgg ggg cag cat ggc ccc aaa 400

Lys Gly Asp Leu Gly Pro Arg Gly Glu Arg Gly Gln His Gly Pro Lys
 90 95 100

gga gag aag ggc tac ccg ggg att cca cca gaa ctt cag att gca ttc 448
 Gly Glu Lys Gly Tyr Pro Gly Ile Pro Pro Glu Leu Gln Ile Ala Phe
 105 110 115 120

atg gct tct ctg gca acc cac ttc agc aat cag aac agt ggg att atc 496
 Met Ala Ser Leu Ala Thr His Phe Ser Asn Gln Asn Ser Gly Ile Ile
 125 130 135

ttc agc agt gtt gag acc aac att gga aac ttc ttt gat gtc atg act 544
 Phe Ser Ser Val Glu Thr Asn Ile Gly Asn Phe Phe Asp Val Met Thr
 140 145 150

ggt aga ttt ggg gcc cca gta tca ggt gtg tat ttc ttc acc ttc agc 592
 Gly Arg Phe Gly Ala Pro Val Ser Gly Val Tyr Phe Phe Thr Phe Ser
 155 160 165

atg atg aag cat gag gat gtt gag gaa gtg tat gtg tac ctt atg cac 640
 Met Met Lys His Glu Asp Val Glu Glu Val Tyr Val Tyr Leu Met His
 170 175 180

aat ggc aac aca gtc ttc agc atg tac agc tat gaa atg aag ggc aaa 688
 Asn Gly Asn Thr Val Phe Ser Met Tyr Ser Tyr Glu Met Lys Gly Lys
 185 190 195 200

tca gat aca tcc agc aat cat gct gtg ctg aag cta gcc aaa ggg gat 736
 Ser Asp Thr Ser Ser Asn His Ala Val Leu Lys Leu Ala Lys Gly Asp

205

210

215

gag gtt tgg ctg cga atg ggc aat ggc gct ctc cat ggg gac cac caa 784

Glu Val Trp Leu Arg Met Gly Asn Gly Ala Leu His Gly Asp His Gln

220

225

230

cgc ttc tcc acc ttt gca gga ttc ctg ctc ttt gaa act aag 826

Arg Phe Ser Thr Phe Ala Gly Phe Leu Leu Phe Glu Thr Lys

235

240

245

taaatatatg actagaatag ctccactttg gggaagactt gtagctgagc tgatttggtta 886

cgatctgagg aacattaaag ttgagggttt tacattgctg tattcaaaaa attattggtt 946

gcaatgttgt tcacgctaca ggtacaccaa taatgttgga caattcaggg gctcagaaga 1006

atcaaccaca aaatagtctt ctccagatgac cttgactaat atactcagca tctttatcac 1066

tctttccttg gcacctaaaa gataattctc ctctgacgca ggttggaaat atttttttct 1126

atcacagaag tcatttgcaa agaattttga ctactctgct ttttaatttaa taccagtttt 1186

caggaacccc tgaagtittta agttcattat tctttataac atttgagaga atcggatgta 1246

gtgatatgac agggctgggg caagaacagg ggcactagct gccttattag ctaatttagt 1306

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ctctgaattc acatacaatg ctattttaaa gtcaatagat tttagctata aagtgccttga 1426

ccagtaatgt ggttgtaatt ttgtgtatgt tccccacat cgcaccaac ttcgatgtg 1486

gggtcaggag gttgaggttc actattaaca aatgtcataa atatctcata gaggtacagt 1546

gccaatagat attcaaatgt tgcattgtga ccagaggat tttatatctg aagaacatac 1606

actattaata aataccttag agaaagattt tgacctggct ttagataaaa ctgtggcaag 1666

aaaaatgtaa tgagcaatat atggaaataa acacaccttt gtt 1709

<210> 262

<211> 246

<212> PRT

<213> Homo sapiens

<400> 262

Met Leu Trp Arg Gln Leu Ile Tyr Trp Gln Leu Leu Ala Leu Phe Phe

1 5 10 15

Leu Pro Phe Cys Leu Cys Gln Asp Glu Tyr Met Glu Ser Pro Gln Thr

20 25 30

Gly Gly Leu Pro Pro Asp Cys Ser Lys Cys Cys His Gly Asp Tyr Ser

35 40 45

Phe Arg Gly Tyr Gln Gly Pro Pro Gly Pro Pro Gly Pro Gly Ile

50 55 60

Pro Gly Asn His Gly Asn Asn Gly Asn Asn Gly Ala Thr Gly His Glu
65 70 75 80

Gly Ala Lys Gly Glu Lys Gly Asp Lys Gly Asp Leu Gly Pro Arg Gly
85 90 95

Glu Arg Gly Gln His Gly Pro Lys Gly Glu Lys Gly Tyr Pro Gly Ile
100 105 110

Pro Pro Glu Leu Gln Ile Ala Phe Met Ala Ser Leu Ala Thr His Phe
115 120 125

Ser Asn Gln Asn Ser Gly Ile Ile Phe Ser Ser Val Glu Thr Asn Ile
130 135 140

Gly Asn Phe Phe Asp Val Met Thr Gly Arg Phe Gly Ala Pro Val Ser
145 150 155 160

Gly Val Tyr Phe Phe Thr Phe Ser Met Met Lys His Glu Asp Val Glu
165 170 175

Glu Val Tyr Val Tyr Leu Met His Asn Gly Asn Thr Val Phe Ser Met
180 185 190

Tyr Ser Tyr Glu Met Lys Gly Lys Ser Asp Thr Ser Ser Asn His Ala
195 200 205

Val Leu Lys Leu Ala Lys Gly Asp Glu Val Trp Leu Arg Met Gly Asn

210

215

220

Gly Ala Leu His Gly Asp His Gln Arg Phe Ser Thr Phe Ala Gly Phe

225

230

235

240

Leu Leu Phe Glu Thr Lys

245

<210> 263

<211> 2499

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (208)..(1008)

<400> 263

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acagacacgg gctgactggg gtgtctgccc cccttggggg ggggcagcac agggcctcag 180

gcctgggtgc cacctggcac ctagaag atg cct gtg ccc tgg ttc ttg ctg tcc 234

Met Pro Val Pro Trp Phe Leu Leu Ser

1

5

ttg gca ctg ggc cga agc cca gtg gtc ctt tct ctg gag agg ctt gtg 282
 Leu Ala Leu Gly Arg Ser Pro Val Val Leu Ser Leu Glu Arg Leu Val
 10 15 20 25

ggg cct cag gac gct acc cac tgc tct ccg ggc ctc tcc tgc cgc ctc 330
 Gly Pro Gln Asp Ala Thr His Cys Ser Pro Gly Leu Ser Cys Arg Leu
 30 35 40

tgg gac agt gac ata ctc tgc ctg cct ggg gac atc gtg cct gct ccg 378
 Trp Asp Ser Asp Ile Leu Cys Leu Pro Gly Asp Ile Val Pro Ala Pro
 45 50 55

ggc ccc gtg ctg gcg cct acg cac ctg cag aca gag ctg gtg ctg agg 426
 Gly Pro Val Leu Ala Pro Thr His Leu Gln Thr Glu Leu Val Leu Arg
 60 65 70

tgc cag aag gag acc gac tgt gac ctc tgt ctg cgt gtg gct gtc cac 474
 Cys Gln Lys Glu Thr Asp Cys Asp Leu Cys Leu Arg Val Ala Val His
 75 80 85

ttg gcc gtg cat ggg cac tgg gaa gag cct gaa gat gag gaa aag ttt 522
 Leu Ala Val His Gly His Trp Glu Glu Pro Glu Asp Glu Glu Lys Phe
 90 95 100 105

gga gga gca gct gac tca ggg gtg gag gag cct agg aat gcc tct ctc 570
 Gly Gly Ala Ala Asp Ser Gly Val Glu Glu Pro Arg Asn Ala Ser Leu
 110 115 120

cag gcc caa gtc gtg ctc tcc ttc cag gcc tac cct act gcc cgc tgc 618

Gln Ala Gln Val Val Leu Ser Phe Gln Ala Tyr Pro Thr Ala Arg Cys

125

130

135

gtc ctg ctg gag gtg caa gtg cct gct gcc ctt gtg cag ttt ggt cag 666

Val Leu Leu Glu Val Gln Val Pro Ala Ala Leu Val Gln Phe Gly Gln

140

145

150

tct gtg ggc tct gtg gta tat gac tgc ttc gag gct gcc cta ggg agt 714

Ser Val Gly Ser Val Val Tyr Asp Cys Phe Glu Ala Ala Leu Gly Ser

155

160

165

gag gta cga atc tgg tcc tat act cag ccc agg tac gag aag gaa ctc 762

Glu Val Arg Ile Trp Ser Tyr Thr Gln Pro Arg Tyr Glu Lys Glu Leu

170

175

180

185

aac cac aca cag cag ctg cct gcc ctg ccc tgg ctc aac gtg tca gca 810

Asn His Thr Gln Gln Leu Pro Ala Leu Pro Trp Leu Asn Val Ser Ala

190

195

200

gat ggt gac aac gtg cat ctg gtt ctg aat gtc tct gag gag cag cac 858

Asp Gly Asp Asn Val His Leu Val Leu Asn Val Ser Glu Glu Gln His

205

210

215

ttc ggc ctc tcc ctg tac tgg aat cag gtc cag ggc ccc cca aaa ccc 906

Phe Gly Leu Ser Leu Tyr Trp Asn Gln Val Gln Gly Pro Pro Lys Pro

220

225

230

cgg tgg cac aaa aac ctg gtg agg cct ccc cct tcc caa gtc cat tcc 954

Arg Trp His Lys Asn Leu Val Arg Pro Pro Pro Ser Gln Val His Ser

235

240

245

cac tgt agg ccg atg cct gtg caa agg acg cag tgc cat atc aga gag 1002

His Cys Arg Pro Met Pro Val Gln Arg Thr Gln Cys His Ile Arg Glu

250

255

260

265

gat cct tgaagaggac tcacccaag caagggaaaa ttggtggggg aacttctgcc 1058

Asp Pro

ttcctggttt ccttgacttt ggccctcctcc tcttctcct tatcttctcc aacctccttc 1118

ctttatttgt tccacagact ggaccgcaga tcattacctt gaaccacaca gacctagtgc 1178

cctgcctctg tattcaggtg tggcctctgg aacctgactc cgtaggacg aacatctgcc 1238

ccttcaggga ggacccccgc gcacaccaga acctctggca agccgcccga ctgcgactgc 1298

tgacctgca gagctggctg ctggacgcac cgtgctcgt gcccgcagaa gcggcactgt 1358

gctggcgggc tccgggtggg gacctctgcc agccactggt cccaccgctt tcctgggaga 1418

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ttcaggtgaa cagctcggag aagctgcagc tgcaggagt cttgtgggct gactccctgg 1538

ggcctctcaa agacgatgtg ctactgttgg agacacgagg cccccaggac aacagatccc 1598

tctgtgcctt ggaaccaggt ggctgtactt cactaccag caaagcctcc acgctatggg 1658

acgatgactt gggagcgcta tgggcctgcc ccatggacaa atacatccac aagcgctggg 1718

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aaaaggatca cgcgaaaggg tggctgaggc tcttgaaaca ggacgtccgc tcgggggagg 1838

ccgccagggg ccgcgcggct ctgctcctct actcagccga tgactcgggt ttcgagcgcc 1898

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ccgtgcccgt cttcacactg cctcccaac tgccagactt cctgggggcc ctgcagcagc 2318

ctcgcgcccc gcgttccggg cggtccaag agagagcgga gcaagtgtcc cgggcccttc 2378

agccagccct ggatagctac ttccatcccc cggggactcc cgcgccggga cgcggggtgg 2438

gaccaggggc gggacctggg gcgggggacg ggacttaaataaagcagac gctgtttttc 2498

<210> 264

<211> 267

<212> PRT

<213> Homo sapiens

<400> 264

Met Pro Val Pro Trp Phe Leu Leu Ser Leu Ala Leu Gly Arg Ser Pro

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Val Val Leu Ser Leu Glu Arg Leu Val Gly Pro Gln Asp Ala Thr His

20 25 30

Cys Ser Pro Gly Leu Ser Cys Arg Leu Trp Asp Ser Asp Ile Leu Cys

35 40 45

Leu Pro Gly Asp Ile Val Pro Ala Pro Gly Pro Val Leu Ala Pro Thr

50 55 60

His Leu Gln Thr Glu Leu Val Leu Arg Cys Gln Lys Glu Thr Asp Cys

65 70 75 80

Asp Leu Cys Leu Arg Val Ala Val His Leu Ala Val His Gly His Trp

85 90 95

Glu Glu Pro Glu Asp Glu Glu Lys Phe Gly Gly Ala Ala Asp Ser Gly

100 105 110

Val Glu Glu Pro Arg Asn Ala Ser Leu Gln Ala Gln Val Val Leu Ser
115 120 125

Phe Gln Ala Tyr Pro Thr Ala Arg Cys Val Leu Leu Glu Val Gln Val
130 135 140

Pro Ala Ala Leu Val Gln Phe Gly Gln Ser Val Gly Ser Val Val Tyr
145 150 155 160

Asp Cys Phe Glu Ala Ala Leu Gly Ser Glu Val Arg Ile Trp Ser Tyr
165 170 175

Thr Gln Pro Arg Tyr Glu Lys Glu Leu Asn His Thr Gln Gln Leu Pro
180 185 190

Ala Leu Pro Trp Leu Asn Val Ser Ala Asp Gly Asp Asn Val His Leu
195 200 205

Val Leu Asn Val Ser Glu Glu Gln His Phe Gly Leu Ser Leu Tyr Trp
210 215 220

Asn Gln Val Gln Gly Pro Pro Lys Pro Arg Trp His Lys Asn Leu Val
225 230 235 240

Arg Pro Pro Pro Ser Gln Val His Ser His Cys Arg Pro Met Pro Val
245 250 255

Gln Arg Thr Gln Cys His Ile Arg Glu Asp Pro
260 265

<210> 265

<211> 1601

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (9)..(641)

<400> 265

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Met Val Phe Leu Lys Phe Phe Cys Met Ser Phe Phe Cys His

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10

ctg tgt caa ggc tac ttc gat ggc ccc ctc tac cca gag atg tcc aat 98

Leu Cys Gln Gly Tyr Phe Asp Gly Pro Leu Tyr Pro Glu Met Ser Asn

15

20

25

30

ggg act ctg cac cac tac ttc gtg ccc gat ggg gac tat gag gag aac 146

Gly Thr Leu His His Tyr Phe Val Pro Asp Gly Asp Tyr Glu Glu Asn

35

40

45

gat gac ccc gag aag tgc cag ctg ctc ttc agg gtg agt gac cac agg 194

Asp Asp Pro Glu Lys Cys Gln Leu Leu Phe Arg Val Ser Asp His Arg

50

55

60

cgc tgc tcc cag ggg gag ggg agc cag gtt ggc agc ctg ctg agc ctc 242

Arg Cys Ser Gln Gly Glu Gly Ser Gln Val Gly Ser Leu Leu Ser Leu
65 70 75

acc ctg cgg gag gag ttc acc gtg ctg ggc cgc cag gtg gag gat gct 290
Thr Leu Arg Glu Glu Phe Thr Val Leu Gly Arg Gln Val Glu Asp Ala
80 85 90

ggg cgc gtg ctg gag ggc atc agc aaa agc atc tcc tac gac cta gac 338
Gly Arg Val Leu Glu Gly Ile Ser Lys Ser Ile Ser Tyr Asp Leu Asp
95 100 105 110

ggg gaa gag agc tat ggc aag tac ctg cgg cgg gag tcc cac cag atc 386
Gly Glu Glu Ser Tyr Gly Lys Tyr Leu Arg Arg Glu Ser His Gln Ile
115 120 125

ggg gat gcc tac tcc aac tcg gac aaa tcc ctc act gag ctg gag agc 434
Gly Asp Ala Tyr Ser Asn Ser Asp Lys Ser Leu Thr Glu Leu Glu Ser
130 135 140

aag ttc aag cag ggc cag gaa cag gac agc cgg cag gag agc agg ctc 482
Lys Phe Lys Gln Gly Gln Glu Gln Asp Ser Arg Gln Glu Ser Arg Leu
145 150 155

aac gag gac ttt ctg gga atg ctg gtc cac acc agg tcc ctg ctg aag 530
Asn Glu Asp Phe Leu Gly Met Leu Val His Thr Arg Ser Leu Leu Lys
160 165 170

gag aca ctg gac atc tct gtg ggg ctc agg gac aaa tac gag ctg ctg 578
Glu Thr Leu Asp Ile Ser Val Gly Leu Arg Asp Lys Tyr Glu Leu Leu

175

180

185

190

gcc ctc acc att agg agc cat ggg acc cga cta ggt cgg ctg aaa aat 626

Ala Leu Thr Ile Arg Ser His Gly Thr Arg Leu Gly Arg Leu Lys Asn

195

200

205

gat tat ctt aaa gta taggtggaag gatacaaag ctagaaagag ggaatcaaat 681

Asp Tyr Leu Lys Val

210

cagccccgtt ttggagggtg ggggacagaa gatggggcta catttcccc atacctacta 741

ttttttata tcccgatttg cactttgaga atacatctaa ggtcatcttt caaaagagaa 801

aaattggaca cttgagtgac tttgttttta gttttgtttt tgtacattat ttatgtgatt 861

gttatggaat tgtcacctgg aaagaacaat ttttaagcaat gtcatttcta gatgggtttc 921

taattctgca gagacacccg tttcagccac atctaaaaga gcacagtta tgtggtgcgg 981

aattaaactt ccccatcctg cagattatgt ggaaataccc aaagataata gtgcatagct 1041

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tgccacaaaa ctataggcaa atcgtgtttg caggagatt tctgatgcct ctgtgggcgt 1281

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 caataaacat gttttcatgt 1601

<210> 266

<211> 211

<212> PRT

<213> Homo sapiens

<400> 266

Met Val Phe Leu Lys Phe Phe Cys Met Ser Phe Phe Cys His Leu Cys

1 5 10 15

Gln Gly Tyr Phe Asp Gly Pro Leu Tyr Pro Glu Met Ser Asn Gly Thr

20 25 30

Leu His His Tyr Phe Val Pro Asp Gly Asp Tyr Glu Glu Asn Asp Asp

35 40 45

Pro Glu Lys Cys Gln Leu Leu Phe Arg Val Ser Asp His Arg Arg Cys
50 55 60

Ser Gln Gly Glu Gly Ser Gln Val Gly Ser Leu Leu Ser Leu Thr Leu
65 70 75 80

Arg Glu Glu Phe Thr Val Leu Gly Arg Gln Val Glu Asp Ala Gly Arg
85 90 95

Val Leu Glu Gly Ile Ser Lys Ser Ile Ser Tyr Asp Leu Asp Gly Glu
100 105 110

Glu Ser Tyr Gly Lys Tyr Leu Arg Arg Glu Ser His Gln Ile Gly Asp
115 120 125

Ala Tyr Ser Asn Ser Asp Lys Ser Leu Thr Glu Leu Glu Ser Lys Phe
130 135 140

Lys Gln Gly Gln Glu Gln Asp Ser Arg Gln Glu Ser Arg Leu Asn Glu
145 150 155 160

Asp Phe Leu Gly Met Leu Val His Thr Arg Ser Leu Leu Lys Glu Thr
165 170 175

Leu Asp Ile Ser Val Gly Leu Arg Asp Lys Tyr Glu Leu Leu Ala Leu
180 185 190

Thr Ile Arg Ser His Gly Thr Arg Leu Gly Arg Leu Lys Asn Asp Tyr
195 200 205

Leu Lys Val

210

<210> 267

<211> 1906

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (42)..(1628)

<400> 267

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Met Ala Ala Ala Ala

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5

ctt ctg ctg ggg ctg gcg ctg ctg gca ccg cgg gcg gcc ggc gcg ggc 104

Leu Leu Leu Gly Leu Ala Leu Leu Ala Pro Arg Ala Ala Gly Ala Gly

10

15

20

atg ggc gcg tgc tat gac ggc gca ggg cgc ccg cag cgc tgc ctg ccg 152

Met Gly Ala Cys Tyr Asp Gly Ala Gly Arg Pro Gln Arg Cys Leu Pro

25

30

35

gtg ttc gag aac gcg gcg ttt ggg cgg ctc gcc cag gcc tcg cac acg 200

Val Phe Glu Asn Ala Ala Phe Gly Arg Leu Ala Gln Ala Ser His Thr

40

45

50

tgc ggc agc ccg ccc gag gac ttc tgt ccc cac gtg ggc gcc gcg ggc 248

Cys Gly Ser Pro Pro Glu Asp Phe Cys Pro His Val Gly Ala Ala Gly

55

60

65

gcg ggg gct cat tgc cag cgc tgc gac gcc gcc gac ccc cag cgc cac 296

Ala Gly Ala His Cys Gln Arg Cys Asp Ala Ala Asp Pro Gln Arg His

70

75

80

85

cac aac gcc tcc tac ctc acc gac ttc cac agc cag gac gag agc acc 344

His Asn Ala Ser Tyr Leu Thr Asp Phe His Ser Gln Asp Glu Ser Thr

90

95

100

tgg tgg cag agc ccg tcc atg gcc ttc ggc gtg cag tac ccc acc tcg 392

Trp Trp Gln Ser Pro Ser Met Ala Phe Gly Val Gln Tyr Pro Thr Ser

105

110

115

gtc aac atc acc ctc cgc cta ggg aag gct tat gag atc acg tat gtg 440

Val Asn Ile Thr Leu Arg Leu Gly Lys Ala Tyr Glu Ile Thr Tyr Val

120

125

130

agg ctg aag ttc cac acc agt cgc cct gag agc ttt gcc atc tac aag 488

Arg Leu Lys Phe His Thr Ser Arg Pro Glu Ser Phe Ala Ile Tyr Lys

135

140

145

cgc agc cgc gcc gac ggc cca tgg gag ccc tac cag ttc tac agc gcc 536

Arg Ser Arg Ala Asp Gly Pro Trp Glu Pro Tyr Gln Phe Tyr Ser Ala

150

155

160

165

tcc tgc cag aag acc tac ggc cgg ccc gag ggc cag tgc ctg cgc ccc 584
Ser Cys Gln Lys Thr Tyr Gly Arg Pro Glu Gly Gln Cys Leu Arg Pro

170

175

180

ggc gag gac gag cgc gtg gcc ttc tgc acc tct gag ttc agc gac atc 632
Gly Glu Asp Glu Arg Val Ala Phe Cys Thr Ser Glu Phe Ser Asp Ile

185

190

195

tcc ccg ctg agt ggc ggc aac gtg gcc ttc tcc acc ctg gag ggc cgg 680
Ser Pro Leu Ser Gly Gly Asn Val Ala Phe Ser Thr Leu Glu Gly Arg

200

205

210

ccc agc gcc tac aac ttc gag gag agc cct ggg ctg cag gag tgg gtc 728
Pro Ser Ala Tyr Asn Phe Glu Glu Ser Pro Gly Leu Gln Glu Trp Val

215

220

225

acc agc acc gaa ctc ctc atc tct cta gac cgg ctc aac acg ttt ggg 776
Thr Ser Thr Glu Leu Leu Ile Ser Leu Asp Arg Leu Asn Thr Phe Gly

230

235

240

245

gac gac atc ttc aag gac ccc aag gtg ctc cag tcc tac tat tat gcc 824
Asp Asp Ile Phe Lys Asp Pro Lys Val Leu Gln Ser Tyr Tyr Tyr Ala

250

255

260

gtg tcc gac ttc tct gtg ggc ggc agg tgc aag tgc aac ggg cat gcc 872
Val Ser Asp Phe Ser Val Gly Gly Arg Cys Lys Cys Asn Gly His Ala

265

270

275

agc gag tgc ggc ccc gac gtg gcg ggc cag ttg gcc tgc cgg tgc cag 920

Ser Glu Cys Gly Pro Asp Val Ala Gly Gln Leu Ala Cys Arg Cys Gln

280

285

290

cac aac acc acc ggc aca gac tgt gag cgc tgc ctg ccc ttc ttc cag 968

His Asn Thr Thr Gly Thr Asp Cys Glu Arg Cys Leu Pro Phe Phe Gln

295

300

305

gac cgc ccg tgg gcc cgg ggc acc gcc gag gct gct cac gag tgt ctg 1016

Asp Arg Pro Trp Ala Arg Gly Thr Ala Glu Ala Ala His Glu Cys Leu

310

315

320

325

ccc tgc aac tgc agt ggc cgc tcc gag gaa tgc acg ttt gat cgg gag 1064

Pro Cys Asn Cys Ser Gly Arg Ser Glu Glu Cys Thr Phe Asp Arg Glu

330

335

340

ctc ttc cgc agc aca ggc cac ggc ggg cgc tgt cac cac tgc cgt gac 1112

Leu Phe Arg Ser Thr Gly His Gly Gly Arg Cys His His Cys Arg Asp

345

350

355

cac aca gct ggg cca cac tgt gag cgc tgt cag gag aat ttc tat cac 1160

His Thr Ala Gly Pro His Cys Glu Arg Cys Gln Glu Asn Phe Tyr His

360

365

370

tgg gac ccg cgg atg cca tgc cag ccc tgt gac tgc cag tgc gca ggc 1208

Trp Asp Pro Arg Met Pro Cys Gln Pro Cys Asp Cys Gln Ser Ala Gly

375

380

385

tcc cta cac ctc cag tgc gat gac aca ggc acc tgc gcc tgc aag ccc 1256

Ser Leu His Leu Gln Cys Asp Asp Thr Gly Thr Cys Ala Cys Lys Pro
390 395 400 405

acg gtg act ggc tgg aag tgt gac cgc tgt ctg ccc ggg ttc cac tcg 1304
Thr Val Thr Gly Trp Lys Cys Asp Arg Cys Leu Pro Gly Phe His Ser
410 415 420

ctc agt gag gga ggc tgc aga ccc tgc act tgc aat ccc gct ggc agc 1352
Leu Ser Glu Gly Gly Cys Arg Pro Cys Thr Cys Asn Pro Ala Gly Ser
425 430 435

ctg gac acc tgt gac ccc cgc agt ggg cgc tgc ccc tgc aaa gag aat 1400
Leu Asp Thr Cys Asp Pro Arg Ser Gly Arg Cys Pro Cys Lys Glu Asn
440 445 450

gtg gaa ggc aac cta tgt gac aga tgt cgc ccg ggg acc ttt aac ctg 1448
Val Glu Gly Asn Leu Cys Asp Arg Cys Arg Pro Gly Thr Phe Asn Leu
455 460 465

cag ccc cac aat ccc agc agc agg agc tgc aga tcc agg gct tcg aga 1496
Gln Pro His Asn Pro Ser Ser Arg Ser Cys Arg Ser Arg Ala Ser Arg
470 475 480 485

gtg acc tcg ccg aga tcc gcg ccg aca aac aga acc tgg agg cca ttc 1544
Val Thr Ser Pro Arg Ser Ala Pro Thr Asn Arg Thr Trp Arg Pro Phe
490 495 500

tgc aca gcc tgc ccg aga act gtg cca gct ggc agt gag ggc tgc cca 1592
Cys Thr Ala Cys Pro Arg Thr Val Pro Ala Gly Ser Glu Gly Cys Pro

505

510

515

gat ccc cgg cac aca ctc ccc cac ctg ctg ttt aca tgacccaggg 1638

Asp Pro Arg His Thr Leu Pro His Leu Leu Phe Thr

520

525

ggtgcacact accccacagg tgtgccata cagacattcc ccggagccgg ctgctgtgaa 1698

ctcgaccccg tgtggatagt cacactccct gccgattctg tctgtggctt ctccctgcc 1758

agcaggactg agtgtgcgta ccagttcac ctggacatga gtgcacactc tcacccctgc 1818

acatgcataa acgggcacac ccagtggtca ataacataca cacgtgaggg tgcattgtctg 1878

tgtgtatgac ccacacgtgt tcaagtct 1906

<210> 268

<211> 529

<212> PRT

<213> Homo sapiens

<400> 268

Met Ala Ala Ala Ala Leu Leu Leu Gly Leu Ala Leu Leu Ala Pro Arg

1

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15

Ala Ala Gly Ala Gly Met Gly Ala Cys Tyr Asp Gly Ala Gly Arg Pro

20

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30

Gln Arg Cys Leu Pro Val Phe Glu Asn Ala Ala Phe Gly Arg Leu Ala
35 40 45

Gln Ala Ser His Thr Cys Gly Ser Pro Pro Glu Asp Phe Cys Pro His
50 55 60

Val Gly Ala Ala Gly Ala Gly Ala His Cys Gln Arg Cys Asp Ala Ala
65 70 75 80

Asp Pro Gln Arg His His Asn Ala Ser Tyr Leu Thr Asp Phe His Ser
85 90 95

Gln Asp Glu Ser Thr Trp Trp Gln Ser Pro Ser Met Ala Phe Gly Val
100 105 110

Gln Tyr Pro Thr Ser Val Asn Ile Thr Leu Arg Leu Gly Lys Ala Tyr
115 120 125

Glu Ile Thr Tyr Val Arg Leu Lys Phe His Thr Ser Arg Pro Glu Ser
130 135 140

Phe Ala Ile Tyr Lys Arg Ser Arg Ala Asp Gly Pro Trp Glu Pro Tyr
145 150 155 160

Gln Phe Tyr Ser Ala Ser Cys Gln Lys Thr Tyr Gly Arg Pro Glu Gly
165 170 175

Gln Cys Leu Arg Pro Gly Glu Asp Glu Arg Val Ala Phe Cys Thr Ser
180 185 190

Glu Phe Ser Asp Ile Ser Pro Leu Ser Gly Gly Asn Val Ala Phe Ser
195 200 205

Thr Leu Glu Gly Arg Pro Ser Ala Tyr Asn Phe Glu Glu Ser Pro Gly
210 215 220

Leu Gln Glu Trp Val Thr Ser Thr Glu Leu Leu Ile Ser Leu Asp Arg
225 230 235 240

Leu Asn Thr Phe Gly Asp Asp Ile Phe Lys Asp Pro Lys Val Leu Gln
245 250 255

Ser Tyr Tyr Tyr Ala Val Ser Asp Phe Ser Val Gly Gly Arg Cys Lys
260 265 270

Cys Asn Gly His Ala Ser Glu Cys Gly Pro Asp Val Ala Gly Gln Leu
275 280 285

Ala Cys Arg Cys Gln His Asn Thr Thr Gly Thr Asp Cys Glu Arg Cys
290 295 300

Leu Pro Phe Phe Gln Asp Arg Pro Trp Ala Arg Gly Thr Ala Glu Ala
305 310 315 320

Ala His Glu Cys Leu Pro Cys Asn Cys Ser Gly Arg Ser Glu Glu Cys
325 330 335

Thr Phe Asp Arg Glu Leu Phe Arg Ser Thr Gly His Gly Gly Arg Cys

340

345

350

His His Cys Arg Asp His Thr Ala Gly Pro His Cys Glu Arg Cys Gln

355

360

365

Glu Asn Phe Tyr His Trp Asp Pro Arg Met Pro Cys Gln Pro Cys Asp

370

375

380

Cys Gln Ser Ala Gly Ser Leu His Leu Gln Cys Asp Asp Thr Gly Thr

385

390

395

400

Cys Ala Cys Lys Pro Thr Val Thr Gly Trp Lys Cys Asp Arg Cys Leu

405

410

415

Pro Gly Phe His Ser Leu Ser Glu Gly Gly Cys Arg Pro Cys Thr Cys

420

425

430

Asn Pro Ala Gly Ser Leu Asp Thr Cys Asp Pro Arg Ser Gly Arg Cys

435

440

445

Pro Cys Lys Glu Asn Val Glu Gly Asn Leu Cys Asp Arg Cys Arg Pro

450

455

460

Gly Thr Phe Asn Leu Gln Pro His Asn Pro Ser Ser Arg Ser Cys Arg

465

470

475

480

Ser Arg Ala Ser Arg Val Thr Ser Pro Arg Ser Ala Pro Thr Asn Arg

485

490

495

Thr Trp Arg Pro Phe Cys Thr Ala Cys Pro Arg Thr Val Pro Ala Gly

500

505

510

Ser Glu Gly Cys Pro Asp Pro Arg His Thr Leu Pro His Leu Leu Phe

515

520

525

Thr

<210> 269

<211> 1638

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (380)..(1138)

<400> 269

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agcttgccag gatccccggc gtccttctcg cgccgcttca cgaagagggc gccttcgccg 180

ctcggccagc cggagtgcgc acgggcccgc tggaaccgc actcgccgct ccctgggcag 240

gccggggcac ccgggcacgc agggcgcgcc tggcgagcgc cccgggaggc ggcgtagcagg 300

accagcggcg gccgtgcagg cggaggactt cggcgcggct cctcctgggt gtgaccccg 360

gcgcgccccgc cgcgcgacg atg agg gcg cgg ccg cag gtc tgc gag gcg ctg 412

Met Arg Ala Arg Pro Gln Val Cys Glu Ala Leu

1

5

10

ctc ttc gcc ctg gcg ctc cag acc ggc gtg tgc tat ggc atc aag tgg 460

Leu Phe Ala Leu Ala Leu Gln Thr Gly Val Cys Tyr Gly Ile Lys Trp

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ctg gcg ctg tcc aag aca cca tcg gcc ctg gca ctg aac cag acg caa 508

Leu Ala Leu Ser Lys Thr Pro Ser Ala Leu Ala Leu Asn Gln Thr Gln

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cac tgc aag cag ctg gag ggt ctg gtg tct gca cag gtg cag ctg tgc 556

His Cys Lys Gln Leu Glu Gly Leu Val Ser Ala Gln Val Gln Leu Cys

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cgc agc aac ctg gag ctc atg cac acg gtg gtg cac gcc gcc cgc gag 604

Arg Ser Asn Leu Glu Leu Met His Thr Val Val His Ala Ala Arg Glu

60

65

70

75

gtc atg aag gcc tgt cgc cgg gcc ttt gcc gac atg cgc tgg aac tgc 652

Val Met Lys Ala Cys Arg Arg Ala Phe Ala Asp Met Arg Trp Asn Cys

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85

90

tcc tcc att gag ctc gcc ccc aac tat ttg ctt gac ctg gag aga ggg 700

Ser Ser Ile Glu Leu Ala Pro Asn Tyr Leu Leu Asp Leu Glu Arg Gly

95

100

105

acc cgg gag tcg gcc ttc gtg tat gcg ctg tcg gcc gcc gcc atc agc 748

Thr Arg Glu Ser Ala Phe Val Tyr Ala Leu Ser Ala Ala Ala Ile Ser

110

115

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cac gcc atc gcc cgg gcc tgc acc tcc ggc gac ctg ccc ggc tgc tcc 796

His Ala Ile Ala Arg Ala Cys Thr Ser Gly Asp Leu Pro Gly Cys Ser

125

130

135

tgc ggc ccc gtc cca ggt gag cca ccc ggg ccc ggg aac cgc tgg gga 844

Cys Gly Pro Val Pro Gly Glu Pro Pro Gly Pro Gly Asn Arg Trp Gly

140

145

150

155

gga tgt gcg gac aac ctc agc tac ggg ctc ctc atg ggg gcc aag ttt 892

Gly Cys Ala Asp Asn Leu Ser Tyr Gly Leu Leu Met Gly Ala Lys Phe

160

165

170

tcc gat gct cct atg aag gtg aaa aaa aca gga tcc caa gcc aat aaa 940

Ser Asp Ala Pro Met Lys Val Lys Lys Thr Gly Ser Gln Ala Asn Lys

175

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185

ctg atg cgt cta cac aac agt gaa gtg ggg aga cag gct ctg cgc gcc 988

Leu Met Arg Leu His Asn Ser Glu Val Gly Arg Gln Ala Leu Arg Ala

190

195

200

tct ctg ctt gtg aat tcc aga tgc cag gca tgg gag gcg gct tgt gct 1036

Ser Leu Leu Val Asn Ser Arg Cys Gln Ala Trp Glu Ala Ala Cys Ala

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ttg cct tca ctt gga agc cac cag gaa cag aag gtc tgg cca ccc tgg 1084
 Leu Pro Ser Leu Gly Ser His Gln Glu Gln Lys Val Trp Pro Pro Trp
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 aag gag ggc agg aca tca aag gaa acc gac aag att aaa aat aac ttg 1132
 Lys Glu Gly Arg Thr Ser Lys Glu Thr Asp Lys Ile Lys Asn Asn Leu
 240 245 250

 gca gcc tgaggctctg gagtgccac aggctggtgt aaggagcggg gcttgggac 1188
 Ala Ala

 ggtgagactg atacagactt gacctttcag ggccacagag accagcctcc gggaaggggt 1248

 ctgcccgcct tcttcagaat gttctgcggg accccctggc ccaccctggg gtctgagcct 1308

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 ggggtggcac ttctcaattc ctctttatat attttatata tataaatata tatgtatata 1488

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25

30

Thr Pro Ser Ala Leu Ala Leu Asn Gln Thr Gln His Cys Lys Gln Leu

35

40

45

Glu Gly Leu Val Ser Ala Gln Val Gln Leu Cys Arg Ser Asn Leu Glu

50

55

60

Leu Met His Thr Val Val His Ala Ala Arg Glu Val Met Lys Ala Cys

65

70

75

80

Arg Arg Ala Phe Ala Asp Met Arg Trp Asn Cys Ser Ser Ile Glu Leu

85

90

95

Ala Pro Asn Tyr Leu Leu Asp Leu Glu Arg Gly Thr Arg Glu Ser Ala

100

105

110

Phe Val Tyr Ala Leu Ser Ala Ala Ala Ile Ser His Ala Ile Ala Arg

115

120

125

Ala Cys Thr Ser Gly Asp Leu Pro Gly Cys Ser Cys Gly Pro Val Pro
130 135 140

Gly Glu Pro Pro Gly Pro Gly Asn Arg Trp Gly Gly Cys Ala Asp Asn
145 150 155 160

Leu Ser Tyr Gly Leu Leu Met Gly Ala Lys Phe Ser Asp Ala Pro Met
165 170 175

Lys Val Lys Lys Thr Gly Ser Gln Ala Asn Lys Leu Met Arg Leu His
180 185 190

Asn Ser Glu Val Gly Arg Gln Ala Leu Arg Ala Ser Leu Leu Val Asn
195 200 205

Ser Arg Cys Gln Ala Trp Glu Ala Ala Cys Ala Leu Pro Ser Leu Gly
210 215 220

Ser His Gln Glu Gln Lys Val Trp Pro Pro Trp Lys Glu Gly Arg Thr
225 230 235 240

Ser Lys Glu Thr Asp Lys Ile Lys Asn Asn Leu Ala Ala
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Pro Leu Leu Ala Leu Leu Leu Leu Leu Leu Ala Pro Leu Pro Pro Gly

15

20

25

gcc ccg ccg ggc gcc gac gcc tac ttt ccc gag gag cgc tgg agc ccg 147

Ala Pro Pro Gly Ala Asp Ala Tyr Phe Pro Glu Glu Arg Trp Ser Pro

30

35

40

45

gag tcg ccc ctg cag gcg ccg cgc gtg ctc atc gcg ctg ttg gcg cga 195

Glu Ser Pro Leu Gln Ala Pro Arg Val Leu Ile Ala Leu Leu Ala Arg

50

55

60

aac gcg gcc cac gcg ttg ccc acc acg ctg ggc gca ctc gag cgg ctg 243

Asn Ala Ala His Ala Leu Pro Thr Thr Leu Gly Ala Leu Glu Arg Leu

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70

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cgg cac ccg cgg gag cgc acg gcg cta tgg gtg gct acg gac cac aac 291

Arg His Pro Arg Glu Arg Thr Ala Leu Trp Val Ala Thr Asp His Asn

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atg gat aac acg tca act gtg ctg cgg gag tgg ctg gtg gcc gtg aag 339

Met Asp Asn Thr Ser Thr Val Leu Arg Glu Trp Leu Val Ala Val Lys

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100

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agt ttg tac cat tcc gtg gag tgg cgg cca gca gag gag ccc agg tcc 387

Ser Leu Tyr His Ser Val Glu Trp Arg Pro Ala Glu Glu Pro Arg Ser

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115

120

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tac ccg gac gag gaa ggc ccg aaa cac tgg tct gac tca cgc tac gag 435

Tyr Pro Asp Glu Glu Gly Pro Lys His Trp Ser Asp Ser Arg Tyr Glu

130

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140

cat gtc atg aag ttg cgc cag gca gcc ctg aaa tca gct cga gac atg 483

His Val Met Lys Leu Arg Gln Ala Ala Leu Lys Ser Ala Arg Asp Met

145

150

155

tgg gct gat tac atc ctg ttt gta gat gcg gac aac ctg atc ctc aac 531

Trp Ala Asp Tyr Ile Leu Phe Val Asp Ala Asp Asn Leu Ile Leu Asn

160

165

170

cct gac aca ctg agc ctg ctc atc gct gag aac aag acg gtg gtc gcc 579

Pro Asp Thr Leu Ser Leu Leu Ile Ala Glu Asn Lys Thr Val Val Ala

175

180

185

ccc atg ctg gat tcc cgg gct gcg tac tcc aac ttc tgg tgt gga atg 627

Pro Met Leu Asp Ser Arg Ala Ala Tyr Ser Asn Phe Trp Cys Gly Met

190

195

200

205

act tcc cag ggc tac tac aag cgc aca cct gcc tac atc cct atc cgc 675

Thr Ser Gln Gly Tyr Tyr Lys Arg Thr Pro Ala Tyr Ile Pro Ile Arg

210

215

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aag cga gac cgc cgg ggc tgc ttt gca gtt ccc atg gtg cac tcg acc 723

Lys Arg Asp Arg Arg Gly Cys Phe Ala Val Pro Met Val His Ser Thr

225

230

235

ttc ctg atc gac ctg cgg aag gcg gcg tcc agg aac ctg gcc ttc tac 771

Phe Leu Ile Asp Leu Arg Lys Ala Ala Ser Arg Asn Leu Ala Phe Tyr

240

245

250

cca cct cac cct gac tac acc tgg tcc ttt gac gac atc atc gtc ttt 819

Pro Pro His Pro Asp Tyr Thr Trp Ser Phe Asp Asp Ile Ile Val Phe

255

260

265

gcc ttc tcc tgc aag cag gca gag gtt cag atg tat gtg tgc aac aag 867

Ala Phe Ser Cys Lys Gln Ala Glu Val Gln Met Tyr Val Cys Asn Lys

270

275

280

285

gag gag tac gga ttc ttg cca gtg cca ttg cgc gcc cac agc acc ctc 915

Glu Glu Tyr Gly Phe Leu Pro Val Pro Leu Arg Ala His Ser Thr Leu

290

295

300

cag gat gag gcc gag agc ttc atg cat gtg cag ctg gag gtc atg gtg 963

Gln Asp Glu Ala Glu Ser Phe Met His Val Gln Leu Glu Val Met Val

305

310

315

aag cac ccg ccc gca gag ccc tcc cgc ttc atc tcg gct ccc acc aag 1011
 Lys His Pro Pro Ala Glu Pro Ser Arg Phe Ile Ser Ala Pro Thr Lys
 320 325 330

aca ccg gac aag atg ggc ttc gac gag gtc ttc atg atc aac ctg agg 1059
 Thr Pro Asp Lys Met Gly Phe Asp Glu Val Phe Met Ile Asn Leu Arg
 335 340 345

cgg cgg cag gac cgg cgg gag cgc atg ctg cgg gcg ctg cag gca cag 1107
 Arg Arg Gln Asp Arg Arg Glu Arg Met Leu Arg Ala Leu Gln Ala Gln
 350 355 360 365

gag atc gag tgc cgg ctg gtg gag gcc gtg gac ggc aaa gcc atg aac 1155
 Glu Ile Glu Cys Arg Leu Val Glu Ala Val Asp Gly Lys Ala Met Asn
 370 375 380

acc agc cag gtg gag gcg ctg ggg atc cag atg ctg cct ggc tac cgg 1203
 Thr Ser Gln Val Glu Ala Leu Gly Ile Gln Met Leu Pro Gly Tyr Arg
 385 390 395

gac ccc tac cac ggc cgg ccc ctc acc aag ggt gag ctg ggc tgc ttc 1251
 Asp Pro Tyr His Gly Arg Pro Leu Thr Lys Gly Glu Leu Gly Cys Phe
 400 405 410

ctg agc cac tac aac atc tgg aag gag gtg gtg gac cgg ggg ctg cag 1299
 Leu Ser His Tyr Asn Ile Trp Lys Glu Val Val Asp Arg Gly Leu Gln
 415 420 425

aaa tcg ctt gtg ttt gag gat gac ctg cgt ttt gag atc ttc ttc aag 1347

Lys Ser Leu Val Phe Glu Asp Asp Leu Arg Phe Glu Ile Phe Phe Lys
430 435 440 445

aga cgt ctg atg aac ctc atg cgg gat gtg gag cgg gag ggc ctg gac 1395
Arg Arg Leu Met Asn Leu Met Arg Asp Val Glu Arg Glu Gly Leu Asp
450 455 460

tgg gac ctc atc tat gtg ggc cgg aag cgg atg cag gtg gag cac ccc 1443
Trp Asp Leu Ile Tyr Val Gly Arg Lys Arg Met Gln Val Glu His Pro
465 470 475

gag aag gct gtg cct cgc gtg agg aac ctg gtg gag gcc gac tat tcc 1491
Glu Lys Ala Val Pro Arg Val Arg Asn Leu Val Glu Ala Asp Tyr Ser
480 485 490

tac tgg acc ctg gcc tac gtg atc tcc ctg caa ggc gcc cgc aaa ctg 1539
Tyr Trp Thr Leu Ala Tyr Val Ile Ser Leu Gln Gly Ala Arg Lys Leu
495 500 505

ctg gct gct gag ccg ctc tcc aag atg ctg cct gtg gac gag ttc ctg 1587
Leu Ala Ala Glu Pro Leu Ser Lys Met Leu Pro Val Asp Glu Phe Leu
510 515 520 525

ccc gtc atg ttc gac aaa cac cca gtg tcc gag tac aag gcc cac ttc 1635
Pro Val Met Phe Asp Lys His Pro Val Ser Glu Tyr Lys Ala His Phe
530 535 540

tcc ctc cgc aac ctg cat gcc ttc tct gtg gag ccg ctg ctc atc tac 1683
Ser Leu Arg Asn Leu His Ala Phe Ser Val Glu Pro Leu Leu Ile Tyr

545

550

555

ccc aca cac tac aca gga gac gat ggc tat gtg agt gac acc gag acc 1731

Pro Thr His Tyr Thr Gly Asp Asp Gly Tyr Val Ser Asp Thr Glu Thr

560

565

570

tca gtc gta tgg aac aat gag cac gtc aag acc gac tgg gac cgc gcc 1779

Ser Val Val Trp Asn Asn Glu His Val Lys Thr Asp Trp Asp Arg Ala

575

580

585

aag tcc cag aag atg cgg gag cag cag gca ctg agc cgt gag gcc aag 1827

Lys Ser Gln Lys Met Arg Glu Gln Gln Ala Leu Ser Arg Glu Ala Lys

590

595

600

605

aac tcg gac gtg ctc cag tcc cca ctg gac agt gct gcc cgg gat gaa 1875

Asn Ser Asp Val Leu Gln Ser Pro Leu Asp Ser Ala Ala Arg Asp Glu

610

615

620

ctc tgaggggtag cagccagaaa gccaaagcag ccacggtgg cccaggctcc 1928

Leu

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<212> PRT

<213> Homo sapiens

<400> 272

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Gly Ala Asp Ala Tyr Phe Pro Glu Glu Arg Trp Ser Pro Glu Ser Pro
35 40 45

Leu Gln Ala Pro Arg Val Leu Ile Ala Leu Leu Ala Arg Asn Ala Ala
50 55 60

His Ala Leu Pro Thr Thr Leu Gly Ala Leu Glu Arg Leu Arg His Pro
65 70 75 80

Arg Glu Arg Thr Ala Leu Trp Val Ala Thr Asp His Asn Met Asp Asn
85 90 95

Thr Ser Thr Val Leu Arg Glu Trp Leu Val Ala Val Lys Ser Leu Tyr
100 105 110

His Ser Val Glu Trp Arg Pro Ala Glu Glu Pro Arg Ser Tyr Pro Asp
115 120 125

Glu Glu Gly Pro Lys His Trp Ser Asp Ser Arg Tyr Glu His Val Met
130 135 140

Lys Leu Arg Gln Ala Ala Leu Lys Ser Ala Arg Asp Met Trp Ala Asp
145 150 155 160

Tyr Ile Leu Phe Val Asp Ala Asp Asn Leu Ile Leu Asn Pro Asp Thr
165 170 175

Leu Ser Leu Leu Ile Ala Glu Asn Lys Thr Val Val Ala Pro Met Leu
180 185 190

Asp Ser Arg Ala Ala Tyr Ser Asn Phe Trp Cys Gly Met Thr Ser Gln
195 200 205

Gly Tyr Tyr Lys Arg Thr Pro Ala Tyr Ile Pro Ile Arg Lys Arg Asp
210 215 220

Arg Arg Gly Cys Phe Ala Val Pro Met Val His Ser Thr Phe Leu Ile
225 230 235 240

Asp Leu Arg Lys Ala Ala Ser Arg Asn Leu Ala Phe Tyr Pro Pro His
245 250 255

Pro Asp Tyr Thr Trp Ser Phe Asp Asp Ile Ile Val Phe Ala Phe Ser
260 265 270

Cys Lys Gln Ala Glu Val Gln Met Tyr Val Cys Asn Lys Glu Glu Tyr
275 280 285

Gly Phe Leu Pro Val Pro Leu Arg Ala His Ser Thr Leu Gln Asp Glu
290 295 300

Ala Glu Ser Phe Met His Val Gln Leu Glu Val Met Val Lys His Pro
305 310 315 320

Pro Ala Glu Pro Ser Arg Phe Ile Ser Ala Pro Thr Lys Thr Pro Asp

325

330

335

Lys Met Gly Phe Asp Glu Val Phe Met Ile Asn Leu Arg Arg Arg Gln

340

345

350

Asp Arg Arg Glu Arg Met Leu Arg Ala Leu Gln Ala Gln Glu Ile Glu

355

360

365

Cys Arg Leu Val Glu Ala Val Asp Gly Lys Ala Met Asn Thr Ser Gln

370

375

380

Val Glu Ala Leu Gly Ile Gln Met Leu Pro Gly Tyr Arg Asp Pro Tyr

385

390

395

400

His Gly Arg Pro Leu Thr Lys Gly Glu Leu Gly Cys Phe Leu Ser His

405

410

415

Tyr Asn Ile Trp Lys Glu Val Val Asp Arg Gly Leu Gln Lys Ser Leu

420

425

430

Val Phe Glu Asp Asp Leu Arg Phe Glu Ile Phe Phe Lys Arg Arg Leu

435

440

445

Met Asn Leu Met Arg Asp Val Glu Arg Glu Gly Leu Asp Trp Asp Leu

450

455

460

Ile Tyr Val Gly Arg Lys Arg Met Gln Val Glu His Pro Glu Lys Ala

465

470

475

480

Val Pro Arg Val Arg Asn Leu Val Glu Ala Asp Tyr Ser Tyr Trp Thr
485 490 495

Leu Ala Tyr Val Ile Ser Leu Gln Gly Ala Arg Lys Leu Leu Ala Ala
500 505 510

Glu Pro Leu Ser Lys Met Leu Pro Val Asp Glu Phe Leu Pro Val Met
515 520 525

Phe Asp Lys His Pro Val Ser Glu Tyr Lys Ala His Phe Ser Leu Arg
530 535 540

Asn Leu His Ala Phe Ser Val Glu Pro Leu Leu Ile Tyr Pro Thr His
545 550 555 560

Tyr Thr Gly Asp Asp Gly Tyr Val Ser Asp Thr Glu Thr Ser Val Val
565 570 575

Trp Asn Asn Glu His Val Lys Thr Asp Trp Asp Arg Ala Lys Ser Gln
580 585 590

Lys Met Arg Glu Gln Gln Ala Leu Ser Arg Glu Ala Lys Asn Ser Asp
595 600 605

Val Leu Gln Ser Pro Leu Asp Ser Ala Ala Arg Asp Glu Leu
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<222> (160)..(2388)

<400> 273

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aagtgggaat cgttaggttc gttctggacc cgccgcccc atg gcc cag gcg tct 174

Met Ala Gln Ala Ser

1 5

cgc tca ggt agc ctg cct cca ctc gtt atc gtg ccc ccg ctg agg gcg 222

Arg Ser Gly Ser Leu Pro Pro Leu Val Ile Val Pro Pro Leu Arg Ala

10 15 20

caa ccc ggg ggc act ggg gag gag cag tgg gag aga agt cga acg ggc 270

Gln Pro Gly Gly Thr Gly Glu Glu Gln Trp Glu Arg Ser Arg Thr Gly

25 30 35

ggt ctt cgc tgg gag gtt cac tgc tgg ccg agc gga act tct gga ggg 318

Gly Leu Arg Trp Glu Val His Cys Trp Pro Ser Gly Thr Ser Gly Gly

40 45 50

acg ccg tgg tgg ccg acg ccg gcg gat gtg agc gag gac tac gag gct 366
 Thr Pro Trp Trp Pro Thr Pro Ala Asp Val Ser Glu Asp Tyr Glu Ala
 55 60 65

gat gct gcg gcc tgg agg cgg ggg ccc gca ggt ggc ggc ccg atc cct 414
 Asp Ala Ala Ala Trp Arg Arg Gly Pro Ala Gly Gly Gly Pro Ile Pro
 70 75 80 85

ccc gcg ctg cag cgt ctc cgg gcg gtg ttg ctg cgg ctg cat cgc gag 462
 Pro Ala Leu Gln Arg Leu Arg Ala Val Leu Leu Arg Leu His Arg Glu
 90 95 100

cgg gag cag ctc ctc cag gcc cga gac tgc gcc tac cac cta cag tcg 510
 Arg Glu Gln Leu Leu Gln Ala Arg Asp Cys Ala Tyr His Leu Gln Ser
 105 110 115

gct gtg cga ctc atg aag acc ctg agt cct ggc tcg cca tcc ggc ggc 558
 Ala Val Arg Leu Met Lys Thr Leu Ser Pro Gly Ser Pro Ser Gly Gly
 120 125 130

cct agc ccc ttg ccc cag tgg tac cgc gac ctg cag ctg cac cct tcc 606
 Pro Ser Pro Leu Pro Gln Trp Tyr Arg Asp Leu Gln Leu His Pro Ser
 135 140 145

caa ggg gcg gtt ctg cga atc ggc cct ggg gag act ctc gag ccg ctg 654
 Gln Gly Ala Val Leu Arg Ile Gly Pro Gly Glu Thr Leu Glu Pro Leu
 150 155 160 165

ctg cta gcg cgc ccc atc gga cta gcc gcc cag tgc ctg gag gct gtc 702

Leu Leu Ala Arg Pro Ile Gly Leu Ala Ala Gln Cys Leu Glu Ala Val

170

175

180

atc gag atg cag ctt cgc gct ctc ggc cgg gag ccc gcc agc ccg ggc 750

Ile Glu Met Gln Leu Arg Ala Leu Gly Arg Glu Pro Ala Ser Pro Gly

185

190

195

ctg tcg tcc caa ctc gcc gag ctg ctc ttt gca ctt ccc gcc tac cac 798

Leu Ser Ser Gln Leu Ala Glu Leu Leu Phe Ala Leu Pro Ala Tyr His

200

205

210

aca cta cag aga aaa gcc ttg agc cac gtc cca ggg gcc gca cgt cct 846

Thr Leu Gln Arg Lys Ala Leu Ser His Val Pro Gly Ala Ala Arg Pro

215

220

225

ttc ccc acg tcc cgt gtg ctc cgc ctc ttg acg ggg gag cgg ggt tgc 894

Phe Pro Thr Ser Arg Val Leu Arg Leu Leu Thr Gly Glu Arg Gly Cys

230

235

240

245

cag gtg gca agt cgg ctg gac gag gcg ctc caa gga tcg gcg ttg agg 942

Gln Val Ala Ser Arg Leu Asp Glu Ala Leu Gln Gly Ser Ala Leu Arg

250

255

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gac cag ctc cgc agg cgg tgc caa gag gag ggg gat ctg cta cca ggg 990

Asp Gln Leu Arg Arg Arg Cys Gln Glu Glu Gly Asp Leu Leu Pro Gly

265

270

275

ctg ctg ggc ctg gtc ggg ggc gtg gcg ggt tca gcc agc tgt gga cta 1038

Leu Leu Gly Leu Val Gly Gly Val Ala Gly Ser Ala Ser Cys Gly Leu

280	285	290	
ggg ctc gga ggg gct ggg gcc ttg tgg tgc caa tac tgg acc ctg ctg			1086
Gly Leu Gly Gly Ala Gly Ala Leu Trp Cys Gln Tyr Trp Thr Leu Leu			
295	300	305	
tgg gca gcc tgt gct cag agt ctg gac cta aat ctg gga ccc tgg agg			1134
Trp Ala Ala Cys Ala Gln Ser Leu Asp Leu Asn Leu Gly Pro Trp Arg			
310	315	320	325
gac ccc agg gca aca gcg caa cag ctg agt cag gca ctg ggt cag gca			1182
Asp Pro Arg Ala Thr Ala Gln Gln Leu Ser Gln Ala Leu Gly Gln Ala			
330	335	340	
tcc ctg cct cag gag tgt gag aag gag ctg gca tct ttg tgt cac aga			1230
Ser Leu Pro Gln Glu Cys Glu Lys Glu Leu Ala Ser Leu Cys His Arg			
345	350	355	
cta ctt cat cag tcg ctt atc tgg agc tgg gac caa ggt ttc tgc cag			1278
Leu Leu His Gln Ser Leu Ile Trp Ser Trp Asp Gln Gly Phe Cys Gln			
360	365	370	
gcc ttg gga tca gct ctt ggg ggt cag agc agc ctt ccc aca tcc tct			1326
Ala Leu Gly Ser Ala Leu Gly Gly Gln Ser Ser Leu Pro Thr Ser Ser			
375	380	385	
ggc act gct gaa ctt ttg cag cag ctc ttt cct cct ctc ttg gat gcc			1374
Gly Thr Ala Glu Leu Leu Gln Gln Leu Phe Pro Pro Leu Leu Asp Ala			
390	395	400	405

ctt cga gag ccc agg tta cga cgg att ttc tgc cag cct gca ggt ctc	1422
Leu Arg Glu Pro Arg Leu Arg Arg Ile Phe Cys Gln Pro Ala Gly Leu	
410 415 420	
tgt acc ctt cag acc acc ttg ctc tgg ttc ctg ggc aga gct cag cag	1470
Cys Thr Leu Gln Thr Thr Leu Leu Trp Phe Leu Gly Arg Ala Gln Gln	
425 430 435	
tac ttg gca gca tgg gac cca gct tcc ttc ctg ctc ctg atc caa aag	1518
Tyr Leu Ala Ala Trp Asp Pro Ala Ser Phe Leu Leu Leu Ile Gln Lys	
440 445 450	
gac tta cct cct ctg ttg cat gag gca gaa gct ttg tat agc ctg gcc	1566
Asp Leu Pro Pro Leu Leu His Glu Ala Glu Ala Leu Tyr Ser Leu Ala	
455 460 465	
tca gag gaa agc tta gct ctg gaa gtg gag cag cag ctg ggc ctg gag	1614
Ser Glu Glu Ser Leu Ala Leu Glu Val Glu Gln Gln Leu Gly Leu Glu	
470 475 480 485	
atc cag aag ctg act gca cag atc cag ctc ctg cct gaa gag tca cta	1662
Ile Gln Lys Leu Thr Ala Gln Ile Gln Leu Leu Pro Glu Glu Ser Leu	
490 495 500	
agt gtc ttt tct caa gaa tgt cat aaa caa gcc atg caa ggt ttc aag	1710
Ser Val Phe Ser Gln Glu Cys His Lys Gln Ala Met Gln Gly Phe Lys	
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ctc tac atg cca cgg ggt cgg tac tgg cgg ctt cgt ctc tgt cct gaa 1758
 Leu Tyr Met Pro Arg Gly Arg Tyr Trp Arg Leu Arg Leu Cys Pro Glu
 520 525 530

cct ccc agt gct cct agt gag tat gct ggt tta gtg gtc cgc acc gta 1806
 Pro Pro Ser Ala Pro Ser Glu Tyr Ala Gly Leu Val Val Arg Thr Val
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ctg gag cct gtg ttg caa gga ttg caa ggg ttg cca cct caa gcc cag 1854
 Leu Glu Pro Val Leu Gln Gly Leu Gln Gly Leu Pro Pro Gln Ala Gln
 550 555 560 565

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 Ala Pro Ala Leu Gly Gln Ala Leu Thr Ala Ile Val Gly Ala Trp Leu
 570 575 580

gac cac att ctt acc cat ggg att cgg ttc agc ctg cag gga gcg ctg 1950
 Asp His Ile Leu Thr His Gly Ile Arg Phe Ser Leu Gln Gly Ala Leu
 585 590 595

cag ctc aaa caa gac ttt gga gtg gtc agg gag ttg ctg gaa gag gag 1998
 Gln Leu Lys Gln Asp Phe Gly Val Val Arg Glu Leu Leu Glu Glu Glu
 600 605 610

cag tgg agc ctg tcc cct gat ctc cgc cag acc ctg ctc atg ctc agc 2046
 Gln Trp Ser Leu Ser Pro Asp Leu Arg Gln Thr Leu Leu Met Leu Ser
 615 620 625

atc ttc cag cag ctg gat ggg gcc cta ctg tgt ctg ttg cag cag ccc 2094

Ile Phe Gln Gln Leu Asp Gly Ala Leu Leu Cys Leu Leu Gln Gln Pro
630 635 640 645

ctg ccc aag tct caa gtc cac agg agg ccc ccc tgt tgc tgt gct tgt 2142
Leu Pro Lys Ser Gln Val His Arg Arg Pro Pro Cys Cys Cys Ala Cys
650 655 660

cag gag gtc cag acc acg aaa ttg ccc agc agc tgc ctc aat agc ctg 2190
Gln Glu Val Gln Thr Thr Lys Leu Pro Ser Ser Cys Leu Asn Ser Leu
665 670 675

gag agc ttg gag ccc ccg ctc cag cct gga aca tct cca gcc cag aca 2238
Glu Ser Leu Glu Pro Pro Leu Gln Pro Gly Thr Ser Pro Ala Gln Thr
680 685 690

ggt cag ctg caa agc aca cta gga gga agg gga cct agc ccg gag ggc 2286
Gly Gln Leu Gln Ser Thr Leu Gly Gly Arg Gly Pro Ser Pro Glu Gly
695 700 705

tac ctg gtg gga aat cag cag gcc tgg ctt gcc ctc agg caa cac cag 2334
Tyr Leu Val Gly Asn Gln Gln Ala Trp Leu Ala Leu Arg Gln His Gln
710 715 720 725

cga ccc cgt tgg cac ctg ccg ttt ttt tcc tgc ctg gga acc agt cct 2382
Arg Pro Arg Trp His Leu Pro Phe Phe Ser Cys Leu Gly Thr Ser Pro
730 735 740

gaa tcc taaggagcct gggaccagga gccagaaagt taagagctcc ccatctctag 2438
Glu Ser

ctggaaaatc cagacatttg gaattgcata ttaaggaagc ccagaactgg aagcttggag 2498

gaaagcatac tggagaataa gctacaaaga gcctgggctt aagaatccaa gattaggggc 2558

tgggcgaggt ggctcacgcc tgtaatccag cactttggga gaccgaggca ggcggatcat 2618

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<212> PRT

<213> Homo sapiens

<400> 274

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30

Arg Ser Arg Thr Gly Gly Leu Arg Trp Glu Val His Cys Trp Pro Ser

35

40

45

Gly Thr Ser Gly Gly Thr Pro Trp Trp Pro Thr Pro Ala Asp Val Ser

50

55

60

Glu Asp Tyr Glu Ala Asp Ala Ala Ala Trp Arg Arg Gly Pro Ala Gly

65

70

75

80

Gly Gly Pro Ile Pro Pro Ala Leu Gln Arg Leu Arg Ala Val Leu Leu

85

90

95

Arg Leu His Arg Glu Arg Glu Gln Leu Leu Gln Ala Arg Asp Cys Ala

100

105

110

Tyr His Leu Gln Ser Ala Val Arg Leu Met Lys Thr Leu Ser Pro Gly

115

120

125

Ser Pro Ser Gly Gly Pro Ser Pro Leu Pro Gln Trp Tyr Arg Asp Leu

130

135

140

Gln Leu His Pro Ser Gln Gly Ala Val Leu Arg Ile Gly Pro Gly Glu

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155

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Thr Leu Glu Pro Leu Leu Leu Ala Arg Pro Ile Gly Leu Ala Ala Gln

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170

175

Cys Leu Glu Ala Val Ile Glu Met Gln Leu Arg Ala Leu Gly Arg Glu

180

185

190

Pro Ala Ser Pro Gly Leu Ser Ser Gln Leu Ala Glu Leu Leu Phe Ala
195 200 205

Leu Pro Ala Tyr His Thr Leu Gln Arg Lys Ala Leu Ser His Val Pro
210 215 220

Gly Ala Ala Arg Pro Phe Pro Thr Ser Arg Val Leu Arg Leu Leu Thr
225 230 235 240

Gly Glu Arg Gly Cys Gln Val Ala Ser Arg Leu Asp Glu Ala Leu Gln
245 250 255

Gly Ser Ala Leu Arg Asp Gln Leu Arg Arg Arg Cys Gln Glu Glu Gly
260 265 270

Asp Leu Leu Pro Gly Leu Leu Gly Leu Val Gly Gly Val Ala Gly Ser
275 280 285

Ala Ser Cys Gly Leu Gly Leu Gly Gly Ala Gly Ala Leu Trp Cys Gln
290 295 300

Tyr Trp Thr Leu Leu Trp Ala Ala Cys Ala Gln Ser Leu Asp Leu Asn
305 310 315 320

Leu Gly Pro Trp Arg Asp Pro Arg Ala Thr Ala Gln Gln Leu Ser Gln
325 330 335

Ala Leu Gly Gln Ala Ser Leu Pro Gln Glu Cys Glu Lys Glu Leu Ala
340 345 350

Ser Leu Cys His Arg Leu Leu His Gln Ser Leu Ile Trp Ser Trp Asp

355

360

365

Gln Gly Phe Cys Gln Ala Leu Gly Ser Ala Leu Gly Gly Gln Ser Ser

370

375

380

Leu Pro Thr Ser Ser Gly Thr Ala Glu Leu Leu Gln Gln Leu Phe Pro

385

390

395

400

Pro Leu Leu Asp Ala Leu Arg Glu Pro Arg Leu Arg Arg Ile Phe Cys

405

410

415

Gln Pro Ala Gly Leu Cys Thr Leu Gln Thr Thr Leu Leu Trp Phe Leu

420

425

430

Gly Arg Ala Gln Gln Tyr Leu Ala Ala Trp Asp Pro Ala Ser Phe Leu

435

440

445

Leu Leu Ile Gln Lys Asp Leu Pro Pro Leu Leu His Glu Ala Glu Ala

450

455

460

Leu Tyr Ser Leu Ala Ser Glu Glu Ser Leu Ala Leu Glu Val Glu Gln

465

470

475

480

Gln Leu Gly Leu Glu Ile Gln Lys Leu Thr Ala Gln Ile Gln Leu Leu

485

490

495

Pro Glu Glu Ser Leu Ser Val Phe Ser Gln Glu Cys His Lys Gln Ala

500

505

510

Met Gln Gly Phe Lys Leu Tyr Met Pro Arg Gly Arg Tyr Trp Arg Leu

515

520

525

Arg Leu Cys Pro Glu Pro Pro Ser Ala Pro Ser Glu Tyr Ala Gly Leu

530

535

540

Val Val Arg Thr Val Leu Glu Pro Val Leu Gln Gly Leu Gln Gly Leu

545

550

555

560

Pro Pro Gln Ala Gln Ala Pro Ala Leu Gly Gln Ala Leu Thr Ala Ile

565

570

575

Val Gly Ala Trp Leu Asp His Ile Leu Thr His Gly Ile Arg Phe Ser

580

585

590

Leu Gln Gly Ala Leu Gln Leu Lys Gln Asp Phe Gly Val Val Arg Glu

595

600

605

Leu Leu Glu Glu Glu Gln Trp Ser Leu Ser Pro Asp Leu Arg Gln Thr

610

615

620

Leu Leu Met Leu Ser Ile Phe Gln Gln Leu Asp Gly Ala Leu Leu Cys

625

630

635

640

Leu Leu Gln Gln Pro Leu Pro Lys Ser Gln Val His Arg Arg Pro Pro

645

650

655

Cys Cys Cys Ala Cys Gln Glu Val Gln Thr Thr Lys Leu Pro Ser Ser
660 665 670

Cys Leu Asn Ser Leu Glu Ser Leu Glu Pro Pro Leu Gln Pro Gly Thr
675 680 685

Ser Pro Ala Gln Thr Gly Gln Leu Gln Ser Thr Leu Gly Gly Arg Gly
690 695 700

Pro Ser Pro Glu Gly Tyr Leu Val Gly Asn Gln Gln Ala Trp Leu Ala
705 710 715 720

Leu Arg Gln His Gln Arg Pro Arg Trp His Leu Pro Phe Phe Ser Cys
725 730 735

Leu Gly Thr Ser Pro Glu Ser
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<211> 2063

<212> DNA

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<222> (27)..(887)

<400> 275

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Leu Phe Leu Leu Ser Trp Ser Gly Pro Leu Gln Gly Gln Gln His His

10

15

20

25

ctt gtg gag tac atg gaa cgc cga cta gct gct tta gag gaa cgg ctg 149

Leu Val Glu Tyr Met Glu Arg Arg Leu Ala Ala Leu Glu Glu Arg Leu

30

35

40

gcc cag tgc cag gac cag agt agt cgg cat gct gct gag ctg cgg gac 197

Ala Gln Cys Gln Asp Gln Ser Ser Arg His Ala Ala Glu Leu Arg Asp

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ttc aag aac aag atg ctg cca ctg ctg gag gtg gca gag aag gag cgg 245

Phe Lys Asn Lys Met Leu Pro Leu Leu Glu Val Ala Glu Lys Glu Arg

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70

gag gca ctc aga act gag gcc gac acc atc tcc ggg aga gtg gat cgt 293

Glu Ala Leu Arg Thr Glu Ala Asp Thr Ile Ser Gly Arg Val Asp Arg

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80

85

ctg gag cgg gag gta gac tat ctg gag acc cag aac cca gct ctg ccc 341

Leu Glu Arg Glu Val Asp Tyr Leu Glu Thr Gln Asn Pro Ala Leu Pro

90

95

100

105

tgt gta gag ttt gat gag aag gtg act gga ggc cct ggg acc aaa ggc 389

Cys Val Glu Phe Asp Glu Lys Val Thr Gly Gly Pro Gly Thr Lys Gly
 110 115 120

aag gga aga agg aat gag aag tac gat atg gtg aca ggt aaa caa tct 437
 Lys Gly Arg Arg Asn Glu Lys Tyr Asp Met Val Thr Gly Lys Gln Ser
 125 130 135

gaa agc agg ccc cta act ctt ctc aga acc gat att ctt cct tcc ttg 485
 Glu Ser Arg Pro Leu Thr Leu Leu Arg Thr Asp Ile Leu Pro Ser Leu
 140 145 150

ctt ctt act ctt ttt ttc act ttg tcc cag tcc att gtg gct ctg tct 533
 Leu Leu Thr Leu Phe Phe Thr Leu Ser Gln Ser Ile Val Ala Leu Ser
 155 160 165

tct gga atc tgt ttt agg gaa acc tct gta atg cca ggt cta tta agg 581
 Ser Gly Ile Cys Phe Arg Glu Thr Ser Val Met Pro Gly Leu Leu Arg
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aga ggt tct ggg gat cca ggc cgc tgt ggt acc cgc tct ttc tca att 629
 Arg Gly Ser Gly Asp Pro Gly Arg Cys Gly Thr Arg Ser Phe Ser Ile
 190 195 200

ctc cct aag att gga ggc aac cgc tgg gca aat gct cac tat tct cca 677
 Leu Pro Lys Ile Gly Gly Asn Arg Trp Ala Asn Ala His Tyr Ser Pro
 205 210 215

gat cac cca ccc tgg ggg agt tcc tgc tgg agg cat cta att ctt gcc 725
 Asp His Pro Pro Trp Gly Ser Ser Cys Trp Arg His Leu Ile Leu Ala

220

225

230

tct att tcc ttt tcc tgt gct ttt ctc atc aga ctg tgg cta cac aat 773

Ser Ile Ser Phe Ser Cys Ala Phe Leu Ile Arg Leu Trp Leu His Asn

235

240

245

ctc tca agt gag atc aat gaa gat tct gaa gcg att tgg tgg ccc agc 821

Leu Ser Ser Glu Ile Asn Glu Asp Ser Glu Ala Ile Trp Trp Pro Ser

250

255

260

265

tgg tct atg gac caa gga tcc act ggg gca aac aga gaa gat cta cgt 869

Trp Ser Met Asp Gln Gly Ser Thr Gly Ala Asn Arg Glu Asp Leu Arg

270

275

280

gtt aga tgg gac aca gaa tgacacagcc tttgtcttcc caaggctgcg 917

Val Arg Trp Asp Thr Glu

285

tgacttcacc cttgccatgg ctgcccggaa agcttcccga gtccgggtgc ccttcccctg 977

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aagacctggt ggaggtggtg agatggagaa cactttgcag ctaatcaaatt tccacctggc 1097

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<212> PRT

<213> Homo sapiens

<400> 276

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Arg Leu Ala Ala Leu Glu Glu Arg Leu Ala Gln Cys Gln Asp Gln Ser
35 40 45

Ser Arg His Ala Ala Glu Leu Arg Asp Phe Lys Asn Lys Met Leu Pro
50 55 60

Leu Leu Glu Val Ala Glu Lys Glu Arg Glu Ala Leu Arg Thr Glu Ala
65 70 75 80

Asp Thr Ile Ser Gly Arg Val Asp Arg Leu Glu Arg Glu Val Asp Tyr
85 90 95

Leu Glu Thr Gln Asn Pro Ala Leu Pro Cys Val Glu Phe Asp Glu Lys
100 105 110

Val Thr Gly Gly Pro Gly Thr Lys Gly Lys Gly Arg Arg Asn Glu Lys

115

120

125

Tyr Asp Met Val Thr Gly Lys Gln Ser Glu Ser Arg Pro Leu Thr Leu

130

135

140

Leu Arg Thr Asp Ile Leu Pro Ser Leu Leu Leu Thr Leu Phe Phe Thr

145

150

155

160

Leu Ser Gln Ser Ile Val Ala Leu Ser Ser Gly Ile Cys Phe Arg Glu

165

170

175

Thr Ser Val Met Pro Gly Leu Leu Arg Arg Gly Ser Gly Asp Pro Gly

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Arg Cys Gly Thr Arg Ser Phe Ser Ile Leu Pro Lys Ile Gly Gly Asn

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Arg Trp Ala Asn Ala His Tyr Ser Pro Asp His Pro Pro Trp Gly Ser

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Ser Cys Trp Arg His Leu Ile Leu Ala Ser Ile Ser Phe Ser Cys Ala

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Phe Leu Ile Arg Leu Trp Leu His Asn Leu Ser Ser Glu Ile Asn Glu

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<400> 277

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gttgtccgca cagtcagcgt gggcctgaca ctgctccgtg tgtgggacgc agagcacccg 180

ggcctctcgg acttc atg ccc ctg cct gtc cta cag gcc atc tcc cca gag 231

Met Pro Leu Pro Val Leu Gln Ala Ile Ser Pro Glu

1

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ctg tct ggg gcc atg gtg gtg ggg gac gtg ctc tgt ctg gcc act gtt 279

Leu Ser Gly Ala Met Val Val Gly Asp Val Leu Cys Leu Ala Thr Val

15

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ctg acc agc ctg gaa ggc ctc tca gga acc tgg agc tcc tca acc aac 327

Leu Thr Ser Leu Glu Gly Leu Ser Gly Thr Trp Ser Ser Ser Thr Asn

30

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agc atc ctc cac atc gac ccc aag acg ggt gtg gct gtg gcc cgg gcc 375

Ser Ile Leu His Ile Asp Pro Lys Thr Gly Val Ala Val Ala Arg Ala

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60

gtg gga tcc gtg acg gtt tac tat gag gtc gct ggg cac ctg agg acc 423

Val Gly Ser Val Thr Val Tyr Tyr Glu Val Ala Gly His Leu Arg Thr

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tac aag gag gtg gtg gtc agc gtc cct cag agg atc atg gcc cgt cac 471

Tyr Lys Glu Val Val Val Ser Val Pro Gln Arg Ile Met Ala Arg His

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ctc cac ccc atc cag aca agc ttc cag gag gct aca gcc tcc aaa gtg 519

Leu His Pro Ile Gln Thr Ser Phe Gln Glu Ala Thr Ala Ser Lys Val

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att gtt gcc gtg gga gac aga agc tct aac ctg aga ggc gag tgc acc 567

Ile Val Ala Val Gly Asp Arg Ser Ser Asn Leu Arg Gly Glu Cys Thr

110

115

120

ccc acc cag agg gaa gtc atc cag gcc ttg cac cca gag acc ctc atc 615

Pro Thr Gln Arg Glu Val Ile Gln Ala Leu His Pro Glu Thr Leu Ile

125

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agc tgc cag tcc cag ttc aag ccg gcc gtc ttt gat ttc cca tct caa 663

Ser Cys Gln Ser Gln Phe Lys Pro Ala Val Phe Asp Phe Pro Ser Gln

145

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gat gtg ttc acc gtg gag cca cag ttt gac act gct ctc ggc cag tac 711

Asp Val Phe Thr Val Glu Pro Gln Phe Asp Thr Ala Leu Gly Gln Tyr

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170

ttc tgc tca atc aca atg cac agg ctg acg gac aag cag cgg aag cac 759

Phe Cys Ser Ile Thr Met His Arg Leu Thr Asp Lys Gln Arg Lys His

175

180

185

ctg agc atg aag aag aca gct ctg gtg gtc agt gcc tcc ctc tcc agc 807

Leu Ser Met Lys Lys Thr Ala Leu Val Val Ser Ala Ser Leu Ser Ser

190

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200

agc cac ttc tcc aca gag cag gtg ggg gcc gag gtg ccc ttc agc cca 855

Ser His Phe Ser Thr Glu Gln Val Gly Ala Glu Val Pro Phe Ser Pro

205

210

215

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ggt ctc ttc gcc gac cag gct gaa atc ctt ttg agc aac cac tac acc 903

Gly Leu Phe Ala Asp Gln Ala Glu Ile Leu Leu Ser Asn His Tyr Thr

225

230

235

agt tcc gag atc agg gtc ttt ggt gcc ccg gag gtt ctg gag aac ttg 951

Ser Ser Glu Ile Arg Val Phe Gly Ala Pro Glu Val Leu Glu Asn Leu

240

245

250

gag gtg aaa tcc ggg tcc ccg gcc gtg ctg gca ttc gca aag gag aag 999

Glu Val Lys Ser Gly Ser Pro Ala Val Leu Ala Phe Ala Lys Glu Lys

255

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Pro Ala Ala Gly Ser Gln Gly Ser Leu Ser Thr Thr Leu Thr Phe Ser	
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agc cct gtg acc aac caa gcc att gcc atc cca gtg aca gtg gct ttt	1143
Ser Pro Val Thr Asn Gln Ala Ile Ala Ile Pro Val Thr Val Ala Phe	
305 310 315	
gtg atg gat cgc cgt ggg ccc ggt cct tat gga gcc agc ctc ttc cag	1191
Val Met Asp Arg Arg Gly Pro Gly Pro Tyr Gly Ala Ser Leu Phe Gln	
320 325 330	
cac ttc ctg gat tcc tac cag gtc atg ttc ttc acg ctc ttc gcc ctg	1239
His Phe Leu Asp Ser Tyr Gln Val Met Phe Phe Thr Leu Phe Ala Leu	
335 340 345	
ttg gct ggg aca gcg gtc atg atc ata gcc tac cac act gtc tgc acg	1287
Leu Ala Gly Thr Ala Val Met Ile Ile Ala Tyr His Thr Val Cys Thr	
350 355 360	
ccc cgg gat ctt gct gtg cct gca gcc ctc acg cct cga gcc agc cct	1335
Pro Arg Asp Leu Ala Val Pro Ala Ala Leu Thr Pro Arg Ala Ser Pro	
365 370 375 380	

gga cac agc ccc cac tat ttc gct gcc tca tca ccc aca tct ccc aat 1383
Gly His Ser Pro His Tyr Phe Ala Ala Ser Ser Pro Thr Ser Pro Asn

385

390

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gca ttg cct cct gct cgc aaa gcc agc cct ccc tca ggg ctg tgg agc 1431
Ala Leu Pro Pro Ala Arg Lys Ala Ser Pro Pro Ser Gly Leu Trp Ser

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405

410

cca gcc tat gcc tcc cac taggccgct gaagggtccc ggaggatggg 1479
Pro Ala Tyr Ala Ser His

415

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<212> PRT

<213> Homo sapiens

<400> 278

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20 25 30

Glu Gly Leu Ser Gly Thr Trp Ser Ser Ser Thr Asn Ser Ile Leu His

35 40 45

Ile Asp Pro Lys Thr Gly Val Ala Val Ala Arg Ala Val Gly Ser Val

50 55 60

Thr Val Tyr Tyr Glu Val Ala Gly His Leu Arg Thr Tyr Lys Glu Val

65 70 75 80

Val Val Ser Val Pro Gln Arg Ile Met Ala Arg His Leu His Pro Ile

85 90 95

Gln Thr Ser Phe Gln Glu Ala Thr Ala Ser Lys Val Ile Val Ala Val

100 105 110

Gly Asp Arg Ser Ser Asn Leu Arg Gly Glu Cys Thr Pro Thr Gln Arg
115 120 125

Glu Val Ile Gln Ala Leu His Pro Glu Thr Leu Ile Ser Cys Gln Ser
130 135 140

Gln Phe Lys Pro Ala Val Phe Asp Phe Pro Ser Gln Asp Val Phe Thr
145 150 155 160

Val Glu Pro Gln Phe Asp Thr Ala Leu Gly Gln Tyr Phe Cys Ser Ile
165 170 175

Thr Met His Arg Leu Thr Asp Lys Gln Arg Lys His Leu Ser Met Lys
180 185 190

Lys Thr Ala Leu Val Val Ser Ala Ser Leu Ser Ser Ser His Phe Ser
195 200 205

Thr Glu Gln Val Gly Ala Glu Val Pro Phe Ser Pro Gly Leu Phe Ala
210 215 220

Asp Gln Ala Glu Ile Leu Leu Ser Asn His Tyr Thr Ser Ser Glu Ile
225 230 235 240

Arg Val Phe Gly Ala Pro Glu Val Leu Glu Asn Leu Glu Val Lys Ser
245 250 255

Gly Ser Pro Ala Val Leu Ala Phe Ala Lys Glu Lys Ser Phe Gly Trp

260

265

270

Pro Ser Phe Ile Thr Tyr Thr Val Gly Val Ser Asp Pro Ala Ala Gly

275

280

285

Ser Gln Gly Ser Leu Ser Thr Thr Leu Thr Phe Ser Ser Pro Val Thr

290

295

300

Asn Gln Ala Ile Ala Ile Pro Val Thr Val Ala Phe Val Met Asp Arg

305

310

315

320

Arg Gly Pro Gly Pro Tyr Gly Ala Ser Leu Phe Gln His Phe Leu Asp

325

330

335

Ser Tyr Gln Val Met Phe Phe Thr Leu Phe Ala Leu Leu Ala Gly Thr

340

345

350

Ala Val Met Ile Ile Ala Tyr His Thr Val Cys Thr Pro Arg Asp Leu

355

360

365

Ala Val Pro Ala Ala Leu Thr Pro Arg Ala Ser Pro Gly His Ser Pro

370

375

380

His Tyr Phe Ala Ala Ser Ser Pro Thr Ser Pro Asn Ala Leu Pro Pro

385

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395

400

Ala Arg Lys Ala Ser Pro Pro Ser Gly Leu Trp Ser Pro Ala Tyr Ala

405

410

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Ser His

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<211> 2969

<212> DNA

<213> Homo sapiens

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<222> (38)..(1072)

<400> 279

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Met Trp Leu Leu Gly Pro

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5

ctg tgc ctg ctg ctg agc agc gcc gcg gag agc cag ctg ctc ccc ggg 103

Leu Cys Leu Leu Leu Ser Ser Ala Ala Glu Ser Gln Leu Leu Pro Gly

10

15

20

aac aac ttc acc aat gag tgc aac ata cca ggc aac ttc atg tgc agc 151

Asn Asn Phe Thr Asn Glu Cys Asn Ile Pro Gly Asn Phe Met Cys Ser

25

30

35

aat gga cgg tgc atc ccg ggc gcc tgg cag tgt gac ggg ctg cct gac 199

Asn Gly Arg Cys Ile Pro Gly Ala Trp Gln Cys Asp Gly Leu Pro Asp

40

45

50

tgc ttc gac aag agt gat gag aag gag tgc ccc aag gct aag tcg aaa 247

Cys Phe Asp Lys Ser Asp Glu Lys Glu Cys Pro Lys Ala Lys Ser Lys

55

60

65

70

tgt ggc cca acc ttc ttc ccc tgt gcc agc ggc atc cat tgc atc att 295

Cys Gly Pro Thr Phe Phe Pro Cys Ala Ser Gly Ile His Cys Ile Ile

75

80

85

ggt cgc ttc cgg tgc aat ggg ttt gag gac tgt ccc gat ggc agc gat 343

Gly Arg Phe Arg Cys Asn Gly Phe Glu Asp Cys Pro Asp Gly Ser Asp

90

95

100

gaa gag aac tgc aca gca aac cct ctg ctt tgc tcc acc gcc cgc tac 391

Glu Glu Asn Cys Thr Ala Asn Pro Leu Leu Cys Ser Thr Ala Arg Tyr

105

110

115

cac tgc aag aac ggc ctc tgt att gac aag agc ttc atc tgc gat gga 439

His Cys Lys Asn Gly Leu Cys Ile Asp Lys Ser Phe Ile Cys Asp Gly

120

125

130

cag aat aac tgt caa gac aac agt gat gag gaa agc tgt gaa agt tct 487

Gln Asn Asn Cys Gln Asp Asn Ser Asp Glu Glu Ser Cys Glu Ser Ser

135

140

145

150

caa gaa ccc ggc agt ggg cag gtg ttt gtg act tca gag aac caa ctt 535

Gln Glu Pro Gly Ser Gly Gln Val Phe Val Thr Ser Glu Asn Gln Leu

155

160

165

gtg tat tac ccc agc atc acc tat gcc atc atc ggc agc tcc gtc att	583
Val Tyr Tyr Pro Ser Ile Thr Tyr Ala Ile Ile Gly Ser Ser Val Ile	
170 175 180	
ttt gtg ctg gtg gtg gcc ctg ctg gca ctg gtc ttg cac cac cag cgg	631
Phe Val Leu Val Val Ala Leu Leu Ala Leu Val Leu His His Gln Arg	
185 190 195	
aag cgg aac aac ctc atg acg ctg ccc gtg cac cgg ctg cag cac cct	679
Lys Arg Asn Asn Leu Met Thr Leu Pro Val His Arg Leu Gln His Pro	
200 205 210	
gtg ctg ctg tcc cgc ctg gtg gtc ctg gac cac ccc cac cac tgc aac	727
Val Leu Leu Ser Arg Leu Val Val Leu Asp His Pro His His Cys Asn	
215 220 225 230	
gtc acc tac aac gtc aat aat ggc atc cag tat gtg gcc agc cag gcg	775
Val Thr Tyr Asn Val Asn Asn Gly Ile Gln Tyr Val Ala Ser Gln Ala	
235 240 245	
gag cag aat gcg tcg gaa gta ggc tcc cca ccc tcc tac tcc gag gcc	823
Glu Gln Asn Ala Ser Glu Val Gly Ser Pro Pro Ser Tyr Ser Glu Ala	
250 255 260	
ttg ctg gac cag agg cct gcg tgg tat gac ctt cct cca ccg ccc tac	871
Leu Leu Asp Gln Arg Pro Ala Trp Tyr Asp Leu Pro Pro Pro Pro Tyr	
265 270 275	
tct tct gac acg gaa tct ctg aac caa gcc gac ctg ccc ccc tac cgc	919

Ser Ser Asp Thr Glu Ser Leu Asn Gln Ala Asp Leu Pro Pro Tyr Arg
 280 285 290

tcc cgg tcc ggg agt gcc aac agt gcc agc tcc cag gca gcc agc agc 967
 Ser Arg Ser Gly Ser Ala Asn Ser Ala Ser Ser Gln Ala Ala Ser Ser
 295 300 305 310

ctc ctg agc gtg gaa gac acc agc cac agc ccg ggg cag cct ggc ccc 1015
 Leu Leu Ser Val Glu Asp Thr Ser His Ser Pro Gly Gln Pro Gly Pro
 315 320 325

cag gag ggc act gct gag ccc agg gac tct gag ccc agc cag ggc act 1063
 Gln Glu Gly Thr Ala Glu Pro Arg Asp Ser Glu Pro Ser Gln Gly Thr
 330 335 340

gaa gaa gta taagtcccag ttattccaaa gtccatatgg gttaatctgc 1112
 Glu Glu Val
 345

tctgacttgt tgccattcta acaatttgtg ctcatgggaa gctctttaag cacctgtaag 1172

gatgtctcaa gttacagttt gggatattaa ctatctctgc attcccctcc tccccagac 1232

ttcagagatg ttttctggc gtctcagttg acatgatctg ttgtgcgtct tttctgtcag 1292

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caggaagtgg ggctaaagtg gcattcagt atcctgttct gtagactttt ctttctttt 2912

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<211> 345

<212> PRT

<213> Homo sapiens

<400> 280

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Ser Gln Leu Leu Pro Gly Asn Asn Phe Thr Asn Glu Cys Asn Ile Pro

20 25 30

Gly Asn Phe Met Cys Ser Asn Gly Arg Cys Ile Pro Gly Ala Trp Gln

35 40 45

Cys Asp Gly Leu Pro Asp Cys Phe Asp Lys Ser Asp Glu Lys Glu Cys

50 55 60

Pro Lys Ala Lys Ser Lys Cys Gly Pro Thr Phe Phe Pro Cys Ala Ser

65 70 75 80

Gly Ile His Cys Ile Ile Gly Arg Phe Arg Cys Asn Gly Phe Glu Asp

85 90 95

Cys Pro Asp Gly Ser Asp Glu Glu Asn Cys Thr Ala Asn Pro Leu Leu

100 105 110

Cys Ser Thr Ala Arg Tyr His Cys Lys Asn Gly Leu Cys Ile Asp Lys

115 120 125

Ser Phe Ile Cys Asp Gly Gln Asn Asn Cys Gln Asp Asn Ser Asp Glu

130 135 140

~~Glu Ser Cys Glu Ser Ser Gln Glu Pro Gly Ser Gly Gln Val Phe Val~~

145	150	155	160
Thr Ser Glu Asn Gln Leu Val Tyr Tyr Pro Ser Ile Thr Tyr Ala Ile			
165	170	175	
Ile Gly Ser Ser Val Ile Phe Val Leu Val Val Ala Leu Leu Ala Leu			
180	185	190	
Val Leu His His Gln Arg Lys Arg Asn Asn Leu Met Thr Leu Pro Val			
195	200	205	
His Arg Leu Gln His Pro Val Leu Leu Ser Arg Leu Val Val Leu Asp			
210	215	220	
His Pro His His Cys Asn Val Thr Tyr Asn Val Asn Asn Gly Ile Gln			
225	230	235	240
Tyr Val Ala Ser Gln Ala Glu Gln Asn Ala Ser Glu Val Gly Ser Pro			
245	250	255	
Pro Ser Tyr Ser Glu Ala Leu Leu Asp Gln Arg Pro Ala Trp Tyr Asp			
260	265	270	
Leu Pro Pro Pro Pro Tyr Ser Ser Asp Thr Glu Ser Leu Asn Gln Ala			
275	280	285	
Asp Leu Pro Pro Tyr Arg Ser Arg Ser Gly Ser Ala Asn Ser Ala Ser			
290	295	300	

Ser Gln Ala Ala Ser Ser Leu Leu Ser Val Glu Asp Thr Ser His Ser
305 310 315 320

Pro Gly Gln Pro Gly Pro Gln Glu Gly Thr Ala Glu Pro Arg Asp Ser
325 330 335

Glu Pro Ser Gln Gly Thr Glu Glu Val
340 345

<210> 281

<211> 2872

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (9)..(716)

<400> 281

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5

10

ctg ctg gcc atc ggc atc tgg gtc atg gtg gac ccc acc ggc ttc cgg 98

Leu Leu Ala Ile Gly Ile Trp Val Met Val Asp Pro Thr Gly Phe Arg

15

20

25

30

gag atc gtg gct gcc aat cct ctg ctc ctc acg ggc gcc tac atc ctc 146

Glu Ile Val Ala Ala Asn Pro Leu Leu Leu Thr Gly Ala Tyr Ile Leu

35

40

45

ctg gcc atg ggg ggc ctg ctc ttt ctg ctc ggc ttc ctg ggc tgc tgc 194

Leu Ala Met Gly Gly Leu Leu Phe Leu Leu Gly Phe Leu Gly Cys Cys

50

55

60

ggg gcc gtc cgt gag aac aag tgt ctg ctg cta ttt ttc ttc ctg ttc 242

Gly Ala Val Arg Glu Asn Lys Cys Leu Leu Leu Phe Phe Phe Leu Phe

65

70

75

atc ctg atc atc ttc ctg gca gag ctc tca gca gcc atc ctg gcc ttc 290

Ile Leu Ile Ile Phe Leu Ala Glu Leu Ser Ala Ala Ile Leu Ala Phe

80

85

90

atc ttc agg gaa aat ctc acc cga gaa ttc ttc acc aag gag ctc acc 338

Ile Phe Arg Glu Asn Leu Thr Arg Glu Phe Phe Thr Lys Glu Leu Thr

95

100

105

110

aag cac tac cag ggc aat aac gac aca gac gtc ttc tct gcc acc tgg 386

Lys His Tyr Gln Gly Asn Asn Asp Thr Asp Val Phe Ser Ala Thr Trp

115

120

125

aac tcg gtc atg atc aca ttt ggt tgc tgc ggg gtc aac ggg cct gaa 434

Asn Ser Val Met Ile Thr Phe Gly Cys Cys Gly Val Asn Gly Pro Glu

130

135

140

gac ttt aag ttt gca tct gtg ttt cga ctc ctg acc ctg gat agt gaa 482

Asp Phe Lys Phe Ala Ser Val Phe Arg Leu Leu Thr Leu Asp Ser Glu

145

150

155

gag gtg ccg gag gcc tgc tgc cgg agg gaa ccc caa agt cgg gac ggg 530

Glu Val Pro Glu Ala Cys Cys Arg Arg Glu Pro Gln Ser Arg Asp Gly

160

165

170

gtc ctg ctg agc cgg gag gag tgc ctc ctg gga agg agc cta ttc cta 578

Val Leu Leu Ser Arg Glu Glu Cys Leu Leu Gly Arg Ser Leu Phe Leu

175

180

185

190

aac aag cag ggc tgt tac acg gtg atc ctc aac acc ttc gag acc tac 626

Asn Lys Gln Gly Cys Tyr Thr Val Ile Leu Asn Thr Phe Glu Thr Tyr

195

200

205

gtc tac ttg gcc gga gcc ctt gcc atc ggg gta ctg gcc atc gag ctt 674

Val Tyr Leu Ala Gly Ala Leu Ala Ile Gly Val Leu Ala Ile Glu Leu

210

215

220

ttc gcc atg atc ttt gcc atg tgc ctc ttc cgg ggc atc cag 716

Phe Ala Met Ile Phe Ala Met Cys Leu Phe Arg Gly Ile Gln

225

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235

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<211> 236

<212> PRT

<213> Homo sapiens

<400> 282

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20 25 30

Val Ala Ala Asn Pro Leu Leu Leu Thr Gly Ala Tyr Ile Leu Leu Ala

35 40 45

Met Gly Gly Leu Leu Phe Leu Leu Gly Phe Leu Gly Cys Cys Gly Ala

50 55 60

Val Arg Glu Asn Lys Cys Leu Leu Leu Phe Phe Phe Leu Phe Ile Leu

65 70 75 80

Ile Ile Phe Leu Ala Glu Leu Ser Ala Ala Ile Leu Ala Phe Ile Phe
85 90 95

Arg Glu Asn Leu Thr Arg Glu Phe Phe Thr Lys Glu Leu Thr Lys His
100 105 110

Tyr Gln Gly Asn Asn Asp Thr Asp Val Phe Ser Ala Thr Trp Asn Ser
115 120 125

Val Met Ile Thr Phe Gly Cys Cys Gly Val Asn Gly Pro Glu Asp Phe
130 135 140

Lys Phe Ala Ser Val Phe Arg Leu Leu Thr Leu Asp Ser Glu Glu Val
145 150 155 160

Pro Glu Ala Cys Cys Arg Arg Glu Pro Gln Ser Arg Asp Gly Val Leu
165 170 175

Leu Ser Arg Glu Glu Cys Leu Leu Gly Arg Ser Leu Phe Leu Asn Lys
180 185 190

Gln Gly Cys Tyr Thr Val Ile Leu Asn Thr Phe Glu Thr Tyr Val Tyr
195 200 205

Leu Ala Gly Ala Leu Ala Ile Gly Val Leu Ala Ile Glu Leu Phe Ala
210 215 220

Met Ile Phe Ala Met Cys Leu Phe Arg Gly Ile Gln
225 230 235

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<211> 2694

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<222> (71)..(586)

<400> 283

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Met Ser Ser Ser Gly Gly Ala Pro Gly Ala Ser Ala Ser

1

5

10

tct gcg ccg ccc gcg cag gaa gag ggc atg acg tgg tgg tac cgc tgg 157

Ser Ala Pro Pro Ala Gln Glu Glu Gly Met Thr Trp Trp Tyr Arg Trp

15

20

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ctg tgt cgc ctg tct ggg gtg ctg ggg gca gtc tct tgc gcg atc tct 205

Leu Cys Arg Leu Ser Gly Val Leu Gly Ala Val Ser Cys Ala Ile Ser

30

35

40

45

ggc ctc ttc aac tgc atc acc atc cac cct ctg aac att gcg gcc ggc 253

Gly Leu Phe Asn Cys Ile Thr Ile His Pro Leu Asn Ile Ala Ala Gly

50

55

60

gtg tgg atg atc atg aat gcc ttc atc ttg ttg ctg tgt gag gcg ccc 301

Val Trp Met Ile Met Asn Ala Phe Ile Leu Leu Leu Cys Glu Ala Pro

65

70

75

ttc tgc tgc cag ttc atc gag ttt gca aac aca gtg gcg gag aag gtg 349

Phe Cys Cys Gln Phe Ile Glu Phe Ala Asn Thr Val Ala Glu Lys Val

80

85

90

gac cgg ctg cgc tcc tgg cag aag gct gtc ttc tac tgc ggg atg gcg 397

Asp Arg Leu Arg Ser Trp Gln Lys Ala Val Phe Tyr Cys Gly Met Ala

95

100

105

gtc gtt ccc atc gtc atc agc ctg acc ctg acc acg ctg ctg ggc aac 445

Val Val Pro Ile Val Ile Ser Leu Thr Leu Thr Thr Leu Leu Gly Asn

110

115

120

125

gcc atc gcc ttt gct acg ggg gtg ctg tac gga ctc tct gct ctg ggc 493

Ala Ile Ala Phe Ala Thr Gly Val Leu Tyr Gly Leu Ser Ala Leu Gly

130

135

140

aaa aag ggc gat gcg atc tcc tat gcc agg atc cag cag cag agg cag 541

Lys Lys Gly Asp Ala Ile Ser Tyr Ala Arg Ile Gln Gln Gln Arg Gln

145

150

155

cag gcg gat gag gag aag ctc gcg gag acc ctg gag ggg gag ctg 586

Gln Ala Asp Glu Glu Lys Leu Ala Glu Thr Leu Glu Gly Glu Leu

160

165

170

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Leu Ser Gly Val Leu Gly Ala Val Ser Cys Ala Ile Ser Gly Leu Phe

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Asn Cys Ile Thr Ile His Pro Leu Asn Ile Ala Ala Gly Val Trp Met

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Ile Met Asn Ala Phe Ile Leu Leu Leu Cys Glu Ala Pro Phe Cys Cys

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Gln Phe Ile Glu Phe Ala Asn Thr Val Ala Glu Lys Val Asp Arg Leu

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Arg Ser Trp Gln Lys Ala Val Phe Tyr Cys Gly Met Ala Val Val Pro

100

105

110

Ile Val Ile Ser Leu Thr Leu Thr Thr Leu Leu Gly Asn Ala Ile Ala

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125

Phe Ala Thr Gly Val Leu Tyr Gly Leu Ser Ala Leu Gly Lys Lys Gly

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Met Leu Arg Arg

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Arg Gly Ser Pro Gly Met Gly Val His Val Gly Ala Ala Leu Gly Ala

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ctg tgg ttc tgc ctc aca gga gcc ctg gag gtc cag gtc cct gaa gac 270

Leu Trp Phe Cys Leu Thr Gly Ala Leu Glu Val Gln Val Pro Glu Asp

25

30

35

cca gtg gtg gca ctg gtg ggc acc gat gcc acc ctg tgc tgc tcc ttc 318

Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu Cys Cys Ser Phe

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Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln

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Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala Glu Gly Gln Asp

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Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu

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Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp

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Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala

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gcc gtc agc ctg cag gtg gcc gct ccc tac tcg aag ccc agc atg acc 606

Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr

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ctg gag ccc aac aag gac ctg cgg cca ggg gac atg gtg acc atc acg 654

Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Met Val Thr Ile Thr

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tgc tcc agc tac cag ggc tac cct gag gct gag gtg ttc tgg cag gat 702

Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp

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Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala

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aac gag cag ggc ttg ttt gat gtg cac agc atc ctg cgg gtg gtg ctg 798

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ggt gca aat ggc acc tac agc tgc ctg gtg cgc aac ccc gtg ctg cag 846

Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln

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cag gat gcg cac agc tct gtc acc atc aca ccc cag aga agc ccc aca 894

Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln Arg Ser Pro Thr

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Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val Val Ala Leu Val

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Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro Glu Pro Gly Phe

265

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agc ctg gca cag ctc aac ctc atc tgg cag ctg aca gac acc aaa cag 1038

Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln

280

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Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly Ser Ala Tyr Ala

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aac cgc acg gcc ctc ttc ccg gac ctg ctg gca caa ggc aat gca tcc 1134

Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser

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ctg agg ctg cag cgc gtg cgt gtg gcg gac gag ggc agc ttc acc tgc 1182

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325

330

335

340

ttc gtg agc atc cgg gat ttc ggc agc gct gcc gtc agc ctg cag gtg 1230

Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val Ser Leu Gln Val

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Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu Pro Asn Lys Asp

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Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser Ser Tyr Arg Gly

375

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Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln Gly Val Pro Leu

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Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala Asn Gly Thr Tyr
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Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp Ala His Gly Ser
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Val Thr Ile Thr Gly Gln Pro Met Thr Phe Pro Pro Glu Ala Leu Trp
455 460 465

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Val Thr Val Gly Leu Ser Val Cys Leu Ile Ala Leu Leu Val Ala Leu
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gct ttc gtg tgc tgg aga aag atc aaa cag agc tgt gag gag gag aat 1662
Ala Phe Val Cys Trp Arg Lys Ile Lys Gln Ser Cys Glu Glu Glu Asn
485 490 495 500

gca gga gct gag gac cag gat ggg gag gga gaa ggc tcc aag aca gcc 1710
Ala Gly Ala Glu Asp Gln Asp Gly Glu Gly Glu Gly Ser Lys Thr Ala
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Leu Gln Pro Leu Lys His Ser Asp Ser Lys Glu Asp Asp Gly Gln Glu

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ata gcc tgaccatgag gaccagggag ctgctacccc tccctacagc tcctaccctc 1814
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Val Pro Glu Asp Pro Val Val Ala Leu Val Gly Thr Asp Ala Thr Leu

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Cys Cys Ser Phe Ser Pro Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn

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Leu Ile Trp Gln Leu Thr Asp Thr Lys Gln Leu Val His Ser Phe Ala

65 70 75 80

Glu Gly Gln Asp Gln Gly Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe

85 90 95

Pro Asp Leu Leu Ala Gln Gly Asn Ala Ser Leu Arg Leu Gln Arg Val

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Arg Val Ala Asp Glu Gly Ser Phe Thr Cys Phe Val Ser Ile Arg Asp

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Phe Gly Ser Ala Ala Val Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys
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Pro Ser Met Thr Leu Glu Pro Asn Lys Asp Leu Arg Pro Gly Asp Met
145 150 155 160

Val Thr Ile Thr Cys Ser Ser Tyr Gln Gly Tyr Pro Glu Ala Glu Val
165 170 175

Phe Trp Gln Asp Gly Gln Gly Val Pro Leu Thr Gly Asn Val Thr Thr
180 185 190

Ser Gln Met Ala Asn Glu Gln Gly Leu Phe Asp Val His Ser Ile Leu
195 200 205

Arg Val Val Leu Gly Ala Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn
210 215 220

Pro Val Leu Gln Gln Asp Ala His Ser Ser Val Thr Ile Thr Pro Gln
225 230 235 240

Arg Ser Pro Thr Gly Ala Val Glu Val Gln Val Pro Glu Asp Pro Val
245 250 255

Val Ala Leu Val Gly Thr Asp Ala Thr Leu Arg Cys Ser Phe Ser Pro
260 265 270

Glu Pro Gly Phe Ser Leu Ala Gln Leu Asn Leu Ile Trp Gln Leu Thr

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285

Asp Thr Lys Gln Leu Val His Ser Phe Thr Glu Gly Arg Asp Gln Gly

290

295

300

Ser Ala Tyr Ala Asn Arg Thr Ala Leu Phe Pro Asp Leu Leu Ala Gln

305

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315

320

Gly Asn Ala Ser Leu Arg Leu Gln Arg Val Arg Val Ala Asp Glu Gly

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335

Ser Phe Thr Cys Phe Val Ser Ile Arg Asp Phe Gly Ser Ala Ala Val

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Ser Leu Gln Val Ala Ala Pro Tyr Ser Lys Pro Ser Met Thr Leu Glu

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Pro Asn Lys Asp Leu Arg Pro Gly Asp Thr Val Thr Ile Thr Cys Ser

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Ser Tyr Arg Gly Tyr Pro Glu Ala Glu Val Phe Trp Gln Asp Gly Gln

385

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Gly Val Pro Leu Thr Gly Asn Val Thr Thr Ser Gln Met Ala Asn Glu

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Gln Gly Leu Phe Asp Val His Ser Val Leu Arg Val Val Leu Gly Ala

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Asn Gly Thr Tyr Ser Cys Leu Val Arg Asn Pro Val Leu Gln Gln Asp

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Ala His Gly Ser Val Thr Ile Thr Gly Gln Pro Met Thr Phe Pro Pro

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Glu Ala Leu Trp Val Thr Val Gly Leu Ser Val Cys Leu Ile Ala Leu

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Leu Val Ala Leu Ala Phe Val Cys Trp Arg Lys Ile Lys Gln Ser Cys

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Glu Glu Glu Asn Ala Gly Ala Glu Asp Gln Asp Gly Glu Gly Glu Gly

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Leu Cys Ala Ser Asp Glu Ser Lys Cys Leu Ile Gln Glu Leu Cys Gln

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tgc cgg ccg gga gaa ggc aat tgc tcc tgc tgt aag gag tgc atg ctg 374

Cys Arg Pro Gly Glu Gly Asn Cys Ser Cys Cys Lys Glu Cys Met Leu

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Cys Leu Gly Ala Leu Trp Asp Glu Cys Cys Asp Cys Val Gly Met Cys

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Asn Pro Arg Asn Tyr Ser Asp Thr Pro Pro Thr Ser Lys Ser Thr Val

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gag gag ctg cat gaa ccg atc cct tct ctc ttc cgg gca ctc aca gaa 518

Glu Glu Leu His Glu Pro Ile Pro Ser Leu Phe Arg Ala Leu Thr Glu

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gga gat act cag ttg aat tgg aac atc gtt tct ttc cct gtt gca gaa 566

Gly Asp Thr Gln Leu Asn Trp Asn Ile Val Ser Phe Pro Val Ala Glu

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gaa ctt tca cat cat gag aat ctg gtt tca ttt tta gaa act gtg aac 614

Glu Leu Ser His His Glu Asn Leu Val Ser Phe Leu Glu Thr Val Asn

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cag cca cac cac cag aat gtg tct gtc ccc agc aat aat gtt cac gcg 662

Gln Pro His His Gln Asn Val Ser Val Pro Ser Asn Asn Val His Ala

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Pro Tyr Ser Ser Asp Lys Glu His Met Cys Thr Val Val Tyr Phe Asp

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Asp Cys Met Ser Ile His Gln Cys Lys Ile Ser Cys Glu Ser Met Gly

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Ala Ser Lys Tyr Arg Trp Phe His Asn Ala Cys Cys Glu Cys Ile Gly
190 195 200 205

cca gaa tgt att gac tat ggt agt aaa act gtc aaa tgt atg aac tgc 854
Pro Glu Cys Ile Asp Tyr Gly Ser Lys Thr Val Lys Cys Met Asn Cys
210 215 220

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Met Phe

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35 40 45

Gly Glu Gly Asn Cys Ser Cys Cys Lys Glu Cys Met Leu Cys Leu Gly
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Ala Leu Trp Asp Glu Cys Cys Asp Cys Val Gly Met Cys Asn Pro Arg
65 70 75 80

Asn Tyr Ser Asp Thr Pro Pro Thr Ser Lys Ser Thr Val Glu Glu Leu
85 90 95

His Glu Pro Ile Pro Ser Leu Phe Arg Ala Leu Thr Glu Gly Asp Thr
100 105 110

Gln Leu Asn Trp Asn Ile Val Ser Phe Pro Val Ala Glu Glu Leu Ser
115 120 125

His His Glu Asn Leu Val Ser Phe Leu Glu Thr Val Asn Gln Pro His
130 135 140

His Gln Asn Val Ser Val Pro Ser Asn Asn Val His Ala Pro Tyr Ser
145 150 155 160

Ser Asp Lys Glu His Met Cys Thr Val Val Tyr Phe Asp Asp Cys Met
165 170 175

Ser Ile His Gln Cys Lys Ile Ser Cys Glu Ser Met Gly Ala Ser Lys
180 185 190

Tyr Arg Trp Phe His Asn Ala Cys Cys Glu Cys Ile Gly Pro Glu Cys
195 200 205

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ttacggcgcc tgtgatccgt ccaggaggac aaagtgggat ttgaaggctc actccacttc 300

tgctc atg gcg ggc cag ggc ctg ccc ctg cac gtg gcc aca ctg ctg act 350

Met Ala Gly Gln Gly Leu Pro Leu His Val Ala Thr Leu Leu Thr

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ggg ctg ctg gaa tgc ctg ggc ttt gct ggc gtc ctc ttt ggc tgg cct 398

Gly Leu Leu Glu Cys Leu Gly Phe Ala Gly Val Leu Phe Gly Trp Pro

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tca cta gtg ttt gtc ttc aag aat gaa gat tac ttt aag gat ctg tgt 446

Ser Leu Val Phe Val Phe Lys Asn Glu Asp Tyr Phe Lys Asp Leu Cys

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gga cca gat gct ggg ccg att ggc aat gcc aca ggg cag gct gac tgc 494

Gly Pro Asp Ala Gly Pro Ile Gly Asn Ala Thr Gly Gln Ala Asp Cys

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aaa gcc cag gat gag agg ttc tca ctc atc ttc acc ctg ggg tcc ttc 542

Lys Ala Gln Asp Glu Arg Phe Ser Leu Ile Phe Thr Leu Gly Ser Phe

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atg aac aac ttc atg aca ttc ccc act ggc tac atc ttt gac cgg ttc 590

Met Asn Asn Phe Met Thr Phe Pro Thr Gly Tyr Ile Phe Asp Arg Phe
80 85 90 95

aag acc acc gtg gca cgc ctc ata gcc ata ttt ttc tac acc acc gcc 638
Lys Thr Thr Val Ala Arg Leu Ile Ala Ile Phe Phe Tyr Thr Thr Ala
100 105 110

aca ctc atc ata gcc ttc acc tct gca ggc tca gcc gtg ctg ctc ttc 686
Thr Leu Ile Ile Ala Phe Thr Ser Ala Gly Ser Ala Val Leu Leu Phe
115 120 125

ctg gcc atg cca atg ctc acc att ggg gga atc ctg ttt ctc atc acc 734
Leu Ala Met Pro Met Leu Thr Ile Gly Gly Ile Leu Phe Leu Ile Thr
130 135 140

aac ctg cag att ggg aac cta ttt ggc caa cac cgt tcg acc atc atc 782
Asn Leu Gln Ile Gly Asn Leu Phe Gly Gln His Arg Ser Thr Ile Ile
145 150 155

act ctg tac aat gga gca ttt gac tct tcc tcg gca gtc ttc ctt att 830
Thr Leu Tyr Asn Gly Ala Phe Asp Ser Ser Ser Ala Val Phe Leu Ile
160 165 170 175

att aag ctt ctt tat gaa aaa ggc atc agc ctc agg gcc tcc ttc atc 878
Ile Lys Leu Leu Tyr Glu Lys Gly Ile Ser Leu Arg Ala Ser Phe Ile
180 185 190

ttc atc tct gtc tgc agt acc tgg cat gta gca cgc act ttc ctc ctg 926
Phe Ile Ser Val Cys Ser Thr Trp His Val Ala Arg Thr Phe Leu Leu

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Met Pro Arg Gly His Ile Pro Tyr Pro Leu Pro Pro Asn Tyr Ser Tyr			
210	215	220	
ggc ctg tgc cct ggg aat ggc acc aca aag gaa gag aag gaa aca gct			1022
Gly Leu Cys Pro Gly Asn Gly Thr Thr Lys Glu Glu Lys Glu Thr Ala			
225	230	235	
gag cat gaa aac agg gag cta cag tca aag gag ttc ctt tca gcg aag			1070
Glu His Glu Asn Arg Glu Leu Gln Ser Lys Glu Phe Leu Ser Ala Lys			
240	245	250	255
gaa gag acc cca ggg gca ggg cag aag cag gaa ctc cgc tcc ttc tgg			1118
Glu Glu Thr Pro Gly Ala Gly Gln Lys Gln Glu Leu Arg Ser Phe Trp			
260	265	270	
agc tac gct ttc tct cgg cgc ttt gcc tgg cac ctg gtg tgg ctg tct			1166
Ser Tyr Ala Phe Ser Arg Arg Phe Ala Trp His Leu Val Trp Leu Ser			
275	280	285	
gtg ata cag ttg tgg cac tac ctc ttc att ggc act ctc aac tcc ttg			1214
Val Ile Gln Leu Trp His Tyr Leu Phe Ile Gly Thr Leu Asn Ser Leu			
290	295	300	
ctg acc aac atg gcc ggt ggg gac atg gca cga gtc agc acc tac aca			1262
Leu Thr Asn Met Ala Gly Gly Asp Met Ala Arg Val Ser Thr Tyr Thr			
305	310	315	

aat gcc ttt gcc ttc act cag ttc gga gtg ctg tgt gcc ccc tgg aat 1310

Asn Ala Phe Ala Phe Thr Gln Phe Gly Val Leu Cys Ala Pro Trp Asn

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Gly Leu Leu Met Asp Arg Leu Lys Gln Lys Tyr Gln Lys Glu Ala Arg

340 345 350

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Lys Thr Gly Ser Ser Thr Leu Ala Val Ala Leu Cys Ser Thr Val Pro

355 360 365

tcg ctg gcc ctg aca tcc ctg ctg tgc ctg ggc ttc gcc ctc tgt gcc 1454

Ser Leu Ala Leu Thr Ser Leu Leu Cys Leu Gly Phe Ala Leu Cys Ala

370 375 380

tca gtc ccc atc ctc cct ctc cag tac ctc acc ttc atc ctg caa gtg 1502

Ser Val Pro Ile Leu Pro Leu Gln Tyr Leu Thr Phe Ile Leu Gln Val

385 390 395

atc agc cgc tcc ttc ctc tat ggg agc aac gcg gcc ttc ctc acc ctt 1550

Ile Ser Arg Ser Phe Leu Tyr Gly Ser Asn Ala Ala Phe Leu Thr Leu

400 405 410 415

gct ttc cct tca gag cac ttt ggc aag ctc ttt ggg ctg gtg atg gcc 1598

Ala Phe Pro Ser Glu His Phe Gly Lys Leu Phe Gly Leu Val Met Ala

420 425 430

ttg tgc gct gtg gtg tct ctg ctc cag ttc ccc atc ttc acc ctc atc 1646
Leu Ser Ala Val Val Ser Leu Leu Gln Phe Pro Ile Phe Thr Leu Ile

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aaa ggc tcc ctt cag aat gac cca ttt tac gtg gat gtg atg ttc atg 1694
Lys Gly Ser Leu Gln Asn Asp Pro Phe Tyr Val Asp Val Met Phe Met

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ctt gcc att ctt ctg aca ttc ttc cac ccc ttt ctg gta tat cgg gaa 1742
Leu Ala Ile Leu Leu Thr Phe Phe His Pro Phe Leu Val Tyr Arg Glu

465

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tgc cgt act tgg aaa gaa agt ccc tct gca att gca tagttcagaa 1788
Cys Arg Thr Trp Lys Glu Ser Pro Ser Ala Ile Ala

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485

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gtgtcccaaa agactttgcc tatcccagca aaacacacac acacacacac acacacacaa 1908

aataaagaca cacaaggacg tctgcgcagc aagaaaagaa tctcagttgc caagcagatt 1968

gatatcacac agactcaaag caaaggcatg tggaacttct ttatttcaaa acagaagtgt 2028

ctccttgacac ttagccttgg cagacccttg actccagggg agatgacctg ggggaggaag 2088

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Leu Val Phe Val Phe Lys Asn Glu Asp Tyr Phe Lys Asp Leu Cys Gly

35

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45

Pro Asp Ala Gly Pro Ile Gly Asn Ala Thr Gly Gln Ala Asp Cys Lys

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Ala Gln Asp Glu Arg Phe Ser Leu Ile Phe Thr Leu Gly Ser Phe Met

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75

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Asn Asn Phe Met Thr Phe Pro Thr Gly Tyr Ile Phe Asp Arg Phe Lys

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Thr Thr Val Ala Arg Leu Ile Ala Ile Phe Phe Tyr Thr Thr Ala Thr

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Leu Ile Ile Ala Phe Thr Ser Ala Gly Ser Ala Val Leu Leu Phe Leu

115

120

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Ala Met Pro Met Leu Thr Ile Gly Gly Ile Leu Phe Leu Ile Thr Asn

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Leu Gln Ile Gly Asn Leu Phe Gly Gln His Arg Ser Thr Ile Ile Thr

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Leu Tyr Asn Gly Ala Phe Asp Ser Ser Ser Ala Val Phe Leu Ile Ile

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Lys Leu Leu Tyr Glu Lys Gly Ile Ser Leu Arg Ala Ser Phe Ile Phe

180

185

190

Ile Ser Val Cys Ser Thr Trp His Val Ala Arg Thr Phe Leu Leu Met
195 200 205

Pro Arg Gly His Ile Pro Tyr Pro Leu Pro Pro Asn Tyr Ser Tyr Gly
210 215 220

Leu Cys Pro Gly Asn Gly Thr Thr Lys Glu Glu Lys Glu Thr Ala Glu
225 230 235 240

His Glu Asn Arg Glu Leu Gln Ser Lys Glu Phe Leu Ser Ala Lys Glu
245 250 255

Glu Thr Pro Gly Ala Gly Gln Lys Gln Glu Leu Arg Ser Phe Trp Ser
260 265 270

Tyr Ala Phe Ser Arg Arg Phe Ala Trp His Leu Val Trp Leu Ser Val
275 280 285

Ile Gln Leu Trp His Tyr Leu Phe Ile Gly Thr Leu Asn Ser Leu Leu
290 295 300

Thr Asn Met Ala Gly Gly Asp Met Ala Arg Val Ser Thr Tyr Thr Asn
305 310 315 320

Ala Phe Ala Phe Thr Gln Phe Gly Val Leu Cys Ala Pro Trp Asn Gly
325 330 335

Leu Leu Met Asp Arg Leu Lys Gln Lys Tyr Gln Lys Glu Ala Arg Lys
340 345 350

Thr Gly Ser Ser Thr Leu Ala Val Ala Leu Cys Ser Thr Val Pro Ser
355 360 365

Leu Ala Leu Thr Ser Leu Leu Cys Leu Gly Phe Ala Leu Cys Ala Ser
370 375 380

Val Pro Ile Leu Pro Leu Gln Tyr Leu Thr Phe Ile Leu Gln Val Ile
385 390 395 400

Ser Arg Ser Phe Leu Tyr Gly Ser Asn Ala Ala Phe Leu Thr Leu Ala
405 410 415

Phe Pro Ser Glu His Phe Gly Lys Leu Phe Gly Leu Val Met Ala Leu
420 425 430

Ser Ala Val Val Ser Leu Leu Gln Phe Pro Ile Phe Thr Leu Ile Lys
435 440 445

Gly Ser Leu Gln Asn Asp Pro Phe Tyr Val Asp Val Met Phe Met Leu
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Met Ala Ser Ser Ser Val Pro Pro Ala

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acg gta tcg gcg gcg aca gca ggc ccc ggc cca ggt ttc ggc ttc gcc 162

Thr Val Ser Ala Ala Thr Ala Gly Pro Gly Pro Gly Phe Gly Phe Ala

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tcc aag acc aag aag aag cat ttc gtg cag cag aag gtg aag gtg ttc 210

Ser Lys Thr Lys Lys Lys His Phe Val Gln Gln Lys Val Lys Val Phe

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cgg gcg gcc gac ccg ctg gtg ggt gtg ttc ctg tgg ggc gta gcc cac 258

Arg Ala Ala Asp Pro Leu Val Gly Val Phe Leu Trp Gly Val Ala His

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tcg atc aat gag ctc agc cag gtg cct ccc ccg gtg atg ctg ctg cca 306

Ser Ile Asn Glu Leu Ser Gln Val Pro Pro Pro Val Met Leu Leu Pro

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gat gac ttt aag gcc agc tcc aag atc aag gtc aac aat cac ctt ttc 354

Asp Asp Phe Lys Ala Ser Ser Lys Ile Lys Val Asn Asn His Leu Phe

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cac agg gaa aat ctg ccc agt cat ttc aag ttc aag gag tat tgt ccc 402

His Arg Glu Asn Leu Pro Ser His Phe Lys Phe Lys Glu Tyr Cys Pro

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cag gtc ttc agg aac ctc cgt gat cga ttt ggc att gat gac caa gat 450

Gln Val Phe Arg Asn Leu Arg Asp Arg Phe Gly Ile Asp Asp Gln Asp

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tac ttg gtg tcc ctt acc cga aac ccc ccc agc gaa agt gaa ggc agt 498

Tyr Leu Val Ser Leu Thr Arg Asn Pro Pro Ser Glu Ser Glu Gly Ser

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gat ggt cgc ttc ctt atc tcc tac gat cgg act ctg gtc atc aaa gaa 546

Asp Gly Arg Phe Leu Ile Ser Tyr Asp Arg Thr Leu Val Ile Lys Glu

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gta tcc agt gag gac att gct gac atg cat agc aac ctc tcc aac tat 594

Val Ser Ser Glu Asp Ile Ala Asp Met His Ser Asn Leu Ser Asn Tyr

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160

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cac cag tac att gtg aag tgc cat ggc aac acg ctt ctg ccc cag ttc 642

His Gln Tyr Ile Val Lys Cys His Gly Asn Thr Leu Leu Pro Gln Phe

170

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ctg ggg atg tac cga gtc agt gtg gac aac gaa gac agc tac atg ctt 690

Leu Gly Met Tyr Arg Val Ser Val Asp Asn Glu Asp Ser Tyr Met Leu

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gtg atg cgc aat atg ttt agc cac cgt ctt cct gtg cac agg aag tat 738

Val Met Arg Asn Met Phe Ser His Arg Leu Pro Val His Arg Lys Tyr

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gac ctc aag ggt tcc cta gtg tcc cgg gag cca gcg ata agg aaa agg 786

Asp Leu Lys Gly Ser Leu Val Ser Arg Glu Pro Ala Ile Arg Lys Arg

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tta aag aat tgc cca ccc tta agg ata tgg act ttc tca aca aga acc 834

Leu Lys Asn Cys Pro Pro Leu Arg Ile Trp Thr Phe Ser Thr Arg Thr

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aga aag tat ata ttg gtg aag agg aga aga aaa tat ttc tgg aga agc 882

Arg Lys Tyr Ile Leu Val Lys Arg Arg Arg Lys Tyr Phe Trp Arg Ser

250

255

260

265

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gtctcacaag aagccatgag gccataggga gaagctccct ctccccctca tcttctgctc 2562

caaagggtgt agcaagagga gtaccagtt aggggttgga gccccatat aacatcttcc 2622

gtcagaaga ctgatggatc ttttcttc caaccatctc ctttcccc gatgaatgca 2682

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tattcaatcc

2872

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<400> 292

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Phe Val Gln Gln Lys Val Lys Val Phe Arg Ala Ala Asp Pro Leu Val

35

40

45

Gly Val Phe Leu Trp Gly Val Ala His Ser Ile Asn Glu Leu Ser Gln

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Val Pro Pro Pro Val Met Leu Leu Pro Asp Asp Phe Lys Ala Ser Ser

65

70

75

80

Lys Ile Lys Val Asn Asn His Leu Phe His Arg Glu Asn Leu Pro Ser

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His Phe Lys Phe Lys Glu Tyr Cys Pro Gln Val Phe Arg Asn Leu Arg

100

105

110

Asp Arg Phe Gly Ile Asp Asp Gln Asp Tyr Leu Val Ser Leu Thr Arg

115

120

125

Asn Pro Pro Ser Glu Ser Glu Gly Ser Asp Gly Arg Phe Leu Ile Ser

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Tyr Asp Arg Thr Leu Val Ile Lys Glu Val Ser Ser Glu Asp Ile Ala

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155

160

Asp Met His Ser Asn Leu Ser Asn Tyr His Gln Tyr Ile Val Lys Cys

165

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175

His Gly Asn Thr Leu Leu Pro Gln Phe Leu Gly Met Tyr Arg Val Ser

180

185

190

Val Asp Asn Glu Asp Ser Tyr Met Leu Val Met Arg Asn Met Phe Ser

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205

His Arg Leu Pro Val His Arg Lys Tyr Asp Leu Lys Gly Ser Leu Val

210

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Ser Arg Glu Pro Ala Ile Arg Lys Arg Leu Lys Asn Cys Pro Pro Leu

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Arg Ile Trp Thr Phe Ser Thr Arg Thr Arg Lys Tyr Ile Leu Val Lys

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gctctgtcac acaggctgga gtgcagtgg gtgatcttgg ctcatcgtaa cctccacctc 180

ccgggttcaa gtgattctca tgcctcagcc tcccgagtag ctgggattac aggtggtgac 240

ttccaagagt gactccgtcg gaggaaa atg act ccc cag tcg ctg ctg cag acg 294

Met Thr Pro Gln Ser Leu Leu Gln Thr

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aca ctg ttc ctg ctg agt ctg ctc ttc ctg gtc caa ggt gcc cac ggc 342

Thr Leu Phe Leu Leu Ser Leu Leu Phe Leu Val Gln Gly Ala His Gly

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agg ggc cac agg gaa gac ttt cgc ttc tgc agc cag cgg aac cag aca 390

Arg Gly His Arg Glu Asp Phe Arg Phe Cys Ser Gln Arg Asn Gln Thr

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cac agg agc agc ctc cac tac aaa ccc aca cca gac ctg cgc atc tcc 438

His Arg Ser Ser Leu His Tyr Lys Pro Thr Pro Asp Leu Arg Ile Ser

45

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atc gag aac tcc gaa gag gcc ctc aca gtc cat gcc cct ttc cct gca 486

Ile Glu Asn Ser Glu Glu Ala Leu Thr Val His Ala Pro Phe Pro Ala

60

65

70

gcc cac cct gct tcc cga tcc ttc cct gac ccc agg ggc ctc tac cac 534

Ala His Pro Ala Ser Arg Ser Phe Pro Asp Pro Arg Gly Leu Tyr His

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ttc tgc ctc tac tgg aac cga cat gct ggg aga tta cat ctt ctc tat 582

Phe Cys Leu Tyr Trp Asn Arg His Ala Gly Arg Leu His Leu Leu Tyr

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ggc aag cgt gac ttc ttg ctg agt gac aaa gcc tct agc ctc ctc tgc 630

Gly Lys Arg Asp Phe Leu Leu Ser Asp Lys Ala Ser Ser Leu Leu Cys

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115

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ttc cag cac cag gag gag agc ctg gct cag ggc ccc ccg ctg tta gcc 678

Phe Gln His Gln Glu Glu Ser Leu Ala Gln Gly Pro Pro Leu Leu Ala

125

130

135

act tct gtc acc tcc tgg tgg agc cct cag aac atc agc ctg ccc agt 726
 Thr Ser Val Thr Ser Trp Trp Ser Pro Gln Asn Ile Ser Leu Pro Ser
 140 145 150

gcc gcc agc ttc acc ttc tcc ttc cac agt cct ccc cac acg gcc gct 774
 Ala Ala Ser Phe Thr Phe Ser Phe His Ser Pro Pro His Thr Ala Ala
 155 160 165

cac aat gcc tcg gtg gac atg tgc gag ctc aaa agg gac ctc cag ctg 822
 His Asn Ala Ser Val Asp Met Cys Glu Leu Lys Arg Asp Leu Gln Leu
 170 175 180 185

ctc agc cag ttc ctg aag cat ccc cag aag gcc tca agg agg ccc tcg 870
 Leu Ser Gln Phe Leu Lys His Pro Gln Lys Ala Ser Arg Arg Pro Ser
 190 195 200

gct gcc ccc gcc agc cag cag ttg cag agc ctg gag tcg aaa ctg acc 918
 Ala Ala Pro Ala Ser Gln Gln Leu Gln Ser Leu Glu Ser Lys Leu Thr
 205 210 215

tct gtg aga ttc atg ggg gac atg gtg tcc ttc gag gag gac cgg atc 966
 Ser Val Arg Phe Met Gly Asp Met Val Ser Phe Glu Glu Asp Arg Ile
 220 225 230

aac gcc acg gtg tgg aag ctc cag ccc aca gcc ggc ctc cag gac ctg 1014
 Asn Ala Thr Val Trp Lys Leu Gln Pro Thr Ala Gly Leu Gln Asp Leu
 235 240 245

cac atc cac tcc cgg cag gag gag gag cag agc gag atc atg gag tac 1062

His Ile His Ser Arg Gln Glu Glu Glu Gln Ser Glu Ile Met Glu Tyr
250 255 260 265

tcg gtg ctg ctg cct cga aca ctc ttc cag agg acg aaa ggc cgg agc 1110
Ser Val Leu Leu Pro Arg Thr Leu Phe Gln Arg Thr Lys Gly Arg Ser
270 275 280

ggg gag gct gag aag aga ctc ctc ctg gtg gac ttc agc agc caa gcc 1158
Gly Glu Ala Glu Lys Arg Leu Leu Leu Val Asp Phe Ser Ser Gln Ala
285 290 295

ctg ttc cag gac aag aat tcc agc cac gtc ctg ggt gag aag gtc ttg 1206
Leu Phe Gln Asp Lys Asn Ser Ser His Val Leu Gly Glu Lys Val Leu
300 305 310

ggg att gtg gta cag aac acc aaa gta gcc aac ctc acg gag ccc gtg 1254
Gly Ile Val Val Gln Asn Thr Lys Val Ala Asn Leu Thr Glu Pro Val
315 320 325

gtg ctc acc ttc cag cac cag cta cag ccg aag aat gtg act ctg caa 1302
Val Leu Thr Phe Gln His Gln Leu Gln Pro Lys Asn Val Thr Leu Gln
330 335 340 345

tgt gtg ttc tgg gtt gaa gac ccc aca ttg agc agc ccg ggg cat tgg 1350
Cys Val Phe Trp Val Glu Asp Pro Thr Leu Ser Ser Pro Gly His Trp
350 355 360

agc agt gct ggg tgt gag acc gtc agg agt gaa acc caa aca tcc tgc 1398
Ser Ser Ala Gly Cys Glu Thr Val Arg Ser Glu Thr Gln Thr Ser Cys

365	370	375	
ttc tgc aac cac ttg acc tac ttt gca gtg ctg atg gtc tcc tcg gtg			1446
Phe Cys Asn His Leu Thr Tyr Phe Ala Val Leu Met Val Ser Ser Val			
380	385	390	
gag gtg gac gcc gtg cac aag cac tac ctg agc ctc ctc tcc tac gtg			1494
Glu Val Asp Ala Val His Lys His Tyr Leu Ser Leu Leu Ser Tyr Val			
395	400	405	
ggc tgt gtc gtc tct gcc ctg gcc tgc ctt gtc acc att gcc gcc tac			1542
Gly Cys Val Val Ser Ala Leu Ala Cys Leu Val Thr Ile Ala Ala Tyr			
410	415	420	425
ctc tgc tcc agg agg aaa cct cgg gac tac acc atc aag gtg cac atg			1590
Leu Cys Ser Arg Arg Lys Pro Arg Asp Tyr Thr Ile Lys Val His Met			
430	435	440	
aac ctg ctg ctg gcc gtc ttc ctg ctg gac acg agc ttc ctg ctc agc			1638
Asn Leu Leu Leu Ala Val Phe Leu Leu Asp Thr Ser Phe Leu Leu Ser			
445	450	455	
gag ccg gtg gcc ctg aca ggc tct gag gct ggc tgc cga gcc agt gcc			1686
Glu Pro Val Ala Leu Thr Gly Ser Glu Ala Gly Cys Arg Ala Ser Ala			
460	465	470	
atc ttc ctg cac ttc tcc ctg ctc acc tgc ctt tcc tgg atg ggc ctc			1734
Ile Phe Leu His Phe Ser Leu Leu Thr Cys Leu Ser Trp Met Gly Leu			
475	480	485	

gag ggg tac aac ctc tac cga ctc gtg gta gag gtc ttt ggc acc tat 1782

Glu Gly Tyr Asn Leu Tyr Arg Leu Val Val Glu Val Phe Gly Thr Tyr

490 495 500 505

gtc cct ggc tac cta ctc aag ctg agc gcc atg ggc tgg ggc ttc ccc 1830

Val Pro Gly Tyr Leu Leu Lys Leu Ser Ala Met Gly Trp Gly Phe Pro

510 515 520

atc ttt ctg gtg acg ctg gtg gcc ctg gtg gat gtg gac aac tat ggc 1878

Ile Phe Leu Val Thr Leu Val Ala Leu Val Asp Val Asp Asn Tyr Gly

525 530 535

ccc atc atc ttg gct gtg cat agg act cca gag ggc gtc atc tac cct 1926

Pro Ile Ile Leu Ala Val His Arg Thr Pro Glu Gly Val Ile Tyr Pro

540 545 550

tcc atg tgc tgg atc cgg gac tcc ctg gtc agc tac atc acc aac ctg 1974

Ser Met Cys Trp Ile Arg Asp Ser Leu Val Ser Tyr Ile Thr Asn Leu

555 560 565

ggc ctc ttc agc ctg gtg ttt ctg ttc aac atg gcc atg cta gcc acc 2022

Gly Leu Phe Ser Leu Val Phe Leu Phe Asn Met Ala Met Leu Ala Thr

570 575 580 585

atg gtg gtg cag atc ctg cgg ctg cgc ccc cac acc caa aag tgg tca 2070

Met Val Val Gln Ile Leu Arg Leu Arg Pro His Thr Gln Lys Trp Ser

590 595 600

cat gtg ctg aca ctg ctg ggc ctc agc ctg gtc ctt ggc ctg ccc tgg 2118
His Val Leu Thr Leu Leu Gly Leu Ser Leu Val Leu Gly Leu Pro Trp
605 610 615

gcc ttg atc ttc ttc tcc ttt gct tct ggc acc ttc cag ctt gtc gtc 2166
Ala Leu Ile Phe Phe Ser Phe Ala Ser Gly Thr Phe Gln Leu Val Val
620 625 630

ctc tac ctt ttc agc atc atc acc tcc ttc caa ggc ttc ctc atc ttc 2214
Leu Tyr Leu Phe Ser Ile Ile Thr Ser Phe Gln Gly Phe Leu Ile Phe
635 640 645

atc tgg tac tgg tcc atg cgg ctg cag gcc cgg ggt ggc ccc tcc cct 2262
Ile Trp Tyr Trp Ser Met Arg Leu Gln Ala Arg Gly Gly Pro Ser Pro
650 655 660 665

ctg aag agc aac tca gac agc gcc agg ctc ccc atc agc tcg ggc agc 2310
Leu Lys Ser Asn Ser Asp Ser Ala Arg Leu Pro Ile Ser Ser Gly Ser
670 675 680

acc tcg tcc agc cgc atc taggcctcca gccacctgc ccatgtgatg 2358
Thr Ser Ser Ser Arg Ile
685

aagcagagat tcggcctcgt cgcacactgc ctgtggcccc cgagcccggc ccagccccag 2418

gccagtcagc cgcagacttt ggaaagccca acgaccatgg agagatgggc cgttgccatg 2478

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<212> PRT

<213> Homo sapiens

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20 25 30

Arg Phe Cys Ser Gln Arg Asn Gln Thr His Arg Ser Ser Leu His Tyr

35 40 45

Lys Pro Thr Pro Asp Leu Arg Ile Ser Ile Glu Asn Ser Glu Glu Ala

50

55

60

Leu Thr Val His Ala Pro Phe Pro Ala Ala His Pro Ala Ser Arg Ser

65

70

75

80

Phe Pro Asp Pro Arg Gly Leu Tyr His Phe Cys Leu Tyr Trp Asn Arg

85

90

95

His Ala Gly Arg Leu His Leu Leu Tyr Gly Lys Arg Asp Phe Leu Leu

100

105

110

Ser Asp Lys Ala Ser Ser Leu Leu Cys Phe Gln His Gln Glu Glu Ser

115

120

125

Leu Ala Gln Gly Pro Pro Leu Leu Ala Thr Ser Val Thr Ser Trp Trp

130

135

140

Ser Pro Gln Asn Ile Ser Leu Pro Ser Ala Ala Ser Phe Thr Phe Ser

145

150

155

160

Phe His Ser Pro Pro His Thr Ala Ala His Asn Ala Ser Val Asp Met

165

170

175

Cys Glu Leu Lys Arg Asp Leu Gln Leu Leu Ser Gln Phe Leu Lys His

180

185

190

Pro Gln Lys Ala Ser Arg Arg Pro Ser Ala Ala Pro Ala Ser Gln Gln

195

200

205

Leu Gln Ser Leu Glu Ser Lys Leu Thr Ser Val Arg Phe Met Gly Asp

210

215

220

Met Val Ser Phe Glu Glu Asp Arg Ile Asn Ala Thr Val Trp Lys Leu

225

230

235

240

Gln Pro Thr Ala Gly Leu Gln Asp Leu His Ile His Ser Arg Gln Glu

245

250

255

Glu Glu Gln Ser Glu Ile Met Glu Tyr Ser Val Leu Leu Pro Arg Thr

260

265

270

Leu Phe Gln Arg Thr Lys Gly Arg Ser Gly Glu Ala Glu Lys Arg Leu

275

280

285

Leu Leu Val Asp Phe Ser Ser Gln Ala Leu Phe Gln Asp Lys Asn Ser

290

295

300

Ser His Val Leu Gly Glu Lys Val Leu Gly Ile Val Val Gln Asn Thr

305

310

315

320

Lys Val Ala Asn Leu Thr Glu Pro Val Val Leu Thr Phe Gln His Gln

325

330

335

Leu Gln Pro Lys Asn Val Thr Leu Gln Cys Val Phe Trp Val Glu Asp

340

345

350

Pro Thr Leu Ser Ser Pro Gly His Trp Ser Ser Ala Gly Cys Glu Thr
355 360 365

Val Arg Ser Glu Thr Gln Thr Ser Cys Phe Cys Asn His Leu Thr Tyr
370 375 380

Phe Ala Val Leu Met Val Ser Ser Val Glu Val Asp Ala Val His Lys
385 390 395 400

His Tyr Leu Ser Leu Leu Ser Tyr Val Gly Cys Val Val Ser Ala Leu
405 410 415

Ala Cys Leu Val Thr Ile Ala Ala Tyr Leu Cys Ser Arg Arg Lys Pro
420 425 430

Arg Asp Tyr Thr Ile Lys Val His Met Asn Leu Leu Leu Ala Val Phe
435 440 445

Leu Leu Asp Thr Ser Phe Leu Leu Ser Glu Pro Val Ala Leu Thr Gly
450 455 460

Ser Glu Ala Gly Cys Arg Ala Ser Ala Ile Phe Leu His Phe Ser Leu
465 470 475 480

Leu Thr Cys Leu Ser Trp Met Gly Leu Glu Gly Tyr Asn Leu Tyr Arg
485 490 495

Leu Val Val Glu Val Phe Gly Thr Tyr Val Pro Gly Tyr Leu Leu Lys
500 505 510

Leu Ser Ala Met Gly Trp Gly Phe Pro Ile Phe Leu Val Thr Leu Val

515

520

525

Ala Leu Val Asp Val Asp Asn Tyr Gly Pro Ile Ile Leu Ala Val His

530

535

540

Arg Thr Pro Glu Gly Val Ile Tyr Pro Ser Met Cys Trp Ile Arg Asp

545

550

555

560

Ser Leu Val Ser Tyr Ile Thr Asn Leu Gly Leu Phe Ser Leu Val Phe

565

570

575

Leu Phe Asn Met Ala Met Leu Ala Thr Met Val Val Gln Ile Leu Arg

580

585

590

Leu Arg Pro His Thr Gln Lys Trp Ser His Val Leu Thr Leu Leu Gly

595

600

605

Leu Ser Leu Val Leu Gly Leu Pro Trp Ala Leu Ile Phe Phe Ser Phe

610

615

620

Ala Ser Gly Thr Phe Gln Leu Val Val Leu Tyr Leu Phe Ser Ile Ile

625

630

635

640

Thr Ser Phe Gln Gly Phe Leu Ile Phe Ile Trp Tyr Trp Ser Met Arg

645

650

655

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660

665

670

Ala Arg Leu Pro Ile Ser Ser Gly Ser Thr Ser Ser Ser Arg Ile

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680

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<211> 3791

<212> DNA

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<222> (136)..(1182)

<400> 295

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gacagggagg agcca atg gct ggg cct gcc atc cac acc gct ccc atg ctg 171

Met Ala Gly Pro Ala Ile His Thr Ala Pro Met Leu

1

5

10

ttc ctc gtc ctc ctg ctg ccc ctg gag ctg agc ctg gca ggc gcc ctt 219

Phe Leu Val Leu Leu Leu Pro Leu Glu Leu Ser Leu Ala Gly Ala Leu

15

20

25

gca cct ggg acc cct gcc cgg aac ttc cct gag aat cac att gac ctc 267

Ala Pro Gly Thr Pro Ala Arg Asn Phe Pro Glu Asn His Ile Asp Leu

30

35

40

cca ggc cca gcg ctg tgg acg cct cag gcc agc cac cac cgc cgg cgg 315

Pro Gly Pro Ala Leu Trp Thr Pro Gln Ala Ser His His Arg Arg Arg

45

50

55

60

ggc ccg ggc aag aag gag tgg ggc cca ggc ctg ccc agc cag gcc cag 363

Gly Pro Gly Lys Lys Glu Trp Gly Pro Gly Leu Pro Ser Gln Ala Gln

65

70

75

gat ggg gct gtg gtc acc gcc acc agg cag gcc tcc agg ctg cca gag 411

Asp Gly Ala Val Val Thr Ala Thr Arg Gln Ala Ser Arg Leu Pro Glu

80

85

90

gct gag ggg ctg ctg cct gag cag agt cct gca ggc ctg ctg cag gac 459

Ala Glu Gly Leu Leu Pro Glu Gln Ser Pro Ala Gly Leu Leu Gln Asp

95

100

105

aag gac ctg ctc ctg gga ctg gca ttg ccc tac ccc gag aag gag aac 507

Lys Asp Leu Leu Leu Gly Leu Ala Leu Pro Tyr Pro Glu Lys Glu Asn

110

115

120

cga cct cca ggt tgg gag agg acc agg aaa cgc agc agg gag cac aag 555

Arg Pro Pro Gly Trp Glu Arg Thr Arg Lys Arg Ser Arg Glu His Lys

125

130

135

140

aga cgc agg gac agg ttg agg ctg cac caa ggc cga gcc ttg gtc cga 603

Arg Arg Arg Asp Arg Leu Arg Leu His Gln Gly Arg Ala Leu Val Arg

145

150

155

ggt ccc agc tcc ctg atg aag aag gca gag ctc tcc gaa gcc cag gtg 651

Gly Pro Ser Ser Leu Met Lys Lys Ala Glu Leu Ser Glu Ala Gln Val

160

165

170

ctg gat gca gcc atg gag gaa tcc tcc acc agc ctg gcg ccc acc atg 699

Leu Asp Ala Ala Met Glu Glu Ser Ser Thr Ser Leu Ala Pro Thr Met

175

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185

ttc ttt ctc acc acc ttt gag gca gca cct gcc aca gaa gag tcc ctg 747

Phe Phe Leu Thr Thr Phe Glu Ala Ala Pro Ala Thr Glu Glu Ser Leu

190

195

200

atc ctg ccc gtc acc tcc ctg cgg ccc cag cag gca cag ccc agg tct 795

Ile Leu Pro Val Thr Ser Leu Arg Pro Gln Gln Ala Gln Pro Arg Ser

205

210

215

220

gac ggg gag gtg atg ccc acg ctg gac atg gcc ttg ttc gac tgg acc 843

Asp Gly Glu Val Met Pro Thr Leu Asp Met Ala Leu Phe Asp Trp Thr

225

230

235

gat tat gaa gac tta aaa cct gat ggt tgg ccc tct gca aag aag aaa 891

Asp Tyr Glu Asp Leu Lys Pro Asp Gly Trp Pro Ser Ala Lys Lys Lys

240

245

250

gag aaa cac cgc ggt aaa ctc tcc agt gat ggt aac gaa aca tca cca 939

Glu Lys His Arg Gly Lys Leu Ser Ser Asp Gly Asn Glu Thr Ser Pro

255

260

265

gcc gaa ggg gaa cca tgc gac cat cac caa gac tgc ctg cca ggg act 987
 Ala Glu Gly Glu Pro Cys Asp His His Gln Asp Cys Leu Pro Gly Thr
 270 275 280

tgc tgc gac ctg cgg gag cat ctc tgc aca ccc cac aac cga ggc ctc 1035
 Cys Cys Asp Leu Arg Glu His Leu Cys Thr Pro His Asn Arg Gly Leu
 285 290 295 300

aac aac aaa tgc ttc gat gac tgc atg tgt gtg gaa ggg ctg cgc tgc 1083
 Asn Asn Lys Cys Phe Asp Asp Cys Met Cys Val Glu Gly Leu Arg Cys
 305 310 315

tat gcc aaa ttc cac cgg aac cgc agg gtt aca cgg agg aaa ggg cgc 1131
 Tyr Ala Lys Phe His Arg Asn Arg Arg Val Thr Arg Arg Lys Gly Arg
 320 325 330

tgt gtg gag ccc gag acg gcc aac ggc gac cag gga tcc ttc atc aac 1179
 Cys Val Glu Pro Glu Thr Ala Asn Gly Asp Gln Gly Ser Phe Ile Asn
 335 340 345

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<211> 349

<212> PRT

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<400> 296

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20 25 30

Pro Ala Arg Asn Phe Pro Glu Asn His Ile Asp Leu Pro Gly Pro Ala

35 40 45

Leu Trp Thr Pro Gln Ala Ser His His Arg Arg Arg Gly Pro Gly Lys

50 55 60

Lys Glu Trp Gly Pro Gly Leu Pro Ser Gln Ala Gln Asp Gly Ala Val

65 70 75 80

Val Thr Ala Thr Arg Gln Ala Ser Arg Leu Pro Glu Ala Glu Gly Leu

85 90 95

Leu Pro Glu Gln Ser Pro Ala Gly Leu Leu Gln Asp Lys Asp Leu Leu

100 105 110

Leu Gly Leu Ala Leu Pro Tyr Pro Glu Lys Glu Asn Arg Pro Pro Gly

115 120 125

Trp Glu Arg Thr Arg Lys Arg Ser Arg Glu His Lys Arg Arg Arg Asp

130 135 140

Arg Leu Arg Leu His Gln Gly Arg Ala Leu Val Arg Gly Pro Ser Ser

145	150	155	160
Leu Met Lys Lys Ala Glu Leu Ser Glu Ala Gln Val Leu Asp Ala Ala			
	165	170	175
Met Glu Glu Ser Ser Thr Ser Leu Ala Pro Thr Met Phe Phe Leu Thr			
	180	185	190
Thr Phe Glu Ala Ala Pro Ala Thr Glu Glu Ser Leu Ile Leu Pro Val			
	195	200	205
Thr Ser Leu Arg Pro Gln Gln Ala Gln Pro Arg Ser Asp Gly Glu Val			
	210	215	220
Met Pro Thr Leu Asp Met Ala Leu Phe Asp Trp Thr Asp Tyr Glu Asp			
225	230	235	240
Leu Lys Pro Asp Gly Trp Pro Ser Ala Lys Lys Lys Glu Lys His Arg			
	245	250	255
Gly Lys Leu Ser Ser Asp Gly Asn Glu Thr Ser Pro Ala Glu Gly Glu			
	260	265	270
Pro Cys Asp His His Gln Asp Cys Leu Pro Gly Thr Cys Cys Asp Leu			
	275	280	285
Arg Glu His Leu Cys Thr Pro His Asn Arg Gly Leu Asn Asn Lys Cys			
290	295	300	

Phe Asp Asp Cys Met Cys Val Glu Gly Leu Arg Cys Tyr Ala Lys Phe
305 310 315 320

His Arg Asn Arg Arg Val Thr Arg Arg Lys Gly Arg Cys Val Glu Pro
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Glu Thr Ala Asn Gly Asp Gln Gly Ser Phe Ile Asn Val
340 345

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<222> (264)..(989)

<400> 297

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cccggcctca cttcgtccca ctgtggttag gggtagtcc tgcaaagtgt aagtgatttg 180

ctcaaggtgc ccatttcgca ggaattggag ccaggccag ttctctgagc ctatcattag 240

ggctaaagga gtgcgtgatc aga atg gtg tct gga cgg ttc tac ttg tcc tgc 293

Met Val Ser Gly Arg Phe Tyr Leu Ser Cys

1

5

10

ctg ctg ctg ggg tcc ctg ggc tct atg tgc atc ctc ttc act atc tac 341

Leu Leu Leu Gly Ser Leu Gly Ser Met Cys Ile Leu Phe Thr Ile Tyr

15

20

25

tgg atg cag tac tgg cgt ggt ggc ttt gcc tgg aat ggc agc atc tac 389

Trp Met Gln Tyr Trp Arg Gly Gly Phe Ala Trp Asn Gly Ser Ile Tyr

30

35

40

atg ttc aac tgg cac cca gtg ctt atg gtt gct ggc atg gtg gta ttc 437

Met Phe Asn Trp His Pro Val Leu Met Val Ala Gly Met Val Val Phe

45

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tat gga ggt gcg tca ctg gtg tac cgc ctg ccc cag tcg tgg gtg ggg 485

Tyr Gly Gly Ala Ser Leu Val Tyr Arg Leu Pro Gln Ser Trp Val Gly

60

65

70

ccc aaa ctg ccc tgg aaa ctc ctc cat gca gcg ctg cac ctg atg gcc 533

Pro Lys Leu Pro Trp Lys Leu Leu His Ala Ala Leu His Leu Met Ala

75

80

85

90

ttc gtc ctc act gtt gtg ggg ctg gtt gct gtc ttt acg ttt cac aac 581

Phe Val Leu Thr Val Val Gly Leu Val Ala Val Phe Thr Phe His Asn

95

100

105

cat gga agg act gcc aac ctc tac tcc ctt cac agc tgg ctg ggc atc 629

His Gly Arg Thr Ala Asn Leu Tyr Ser Leu His Ser Trp Leu Gly Ile

110	115	120	
acc act gtc ttc ctc ttc gcc tgc cag tgg ttc ctg ggc ttt gct gtc			677
Thr Thr Val Phe Leu Phe Ala Cys Gln Trp Phe Leu Gly Phe Ala Val			
125	130	135	
ttc ctc ctg ccc tgg gcg tcc atg tgg ctg cgc agc ctc cta aaa cct			725
Phe Leu Leu Pro Trp Ala Ser Met Trp Leu Arg Ser Leu Leu Lys Pro			
140	145	150	
atc cac gtc ttt ttt gga gcc gcc atc ctc tct ctg tcc atc gca tcc			773
Ile His Val Phe Phe Gly Ala Ala Ile Leu Ser Leu Ser Ile Ala Ser			
155	160	165	170
gtc att tcg ggc att aat gag aag ctt ttc ttc agt ttg aaa aac acc			821
Val Ile Ser Gly Ile Asn Glu Lys Leu Phe Phe Ser Leu Lys Asn Thr			
175	180	185	
acc agg cca tac cac agc ctg ccc agt gag gcg gtc ttt gcc aac agc			869
Thr Arg Pro Tyr His Ser Leu Pro Ser Glu Ala Val Phe Ala Asn Ser			
190	195	200	
acc ggg atg ctg gtg gtg gcc ttt ggg ctg ctg gtg ctc tac atc ctt			917
Thr Gly Met Leu Val Val Ala Phe Gly Leu Leu Val Leu Tyr Ile Leu			
205	210	215	
ctg gct tca tct tgg aag cgc cca gag ccg ggg atc ctg acc gac aga			965
Leu Ala Ser Ser Trp Lys Arg Pro Glu Pro Gly Ile Leu Thr Asp Arg			
220	225	230	

cag ccc ctg ctg cat gat ggg gag tgaagcagca ggaaggggct cccaagagct 1019

Gln Pro Leu Leu His Asp Gly Glu

235

240

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gagccttcaa agccactggg atgtcctcca ggcacctggg tcccatgacc agtccccgt 2519

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aatc

2583

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Gly Ser Met Cys Ile Leu Phe Thr Ile Tyr Trp Met Gln Tyr Trp Arg

20 25 30

Gly Gly Phe Ala Trp Asn Gly Ser Ile Tyr Met Phe Asn Trp His Pro

35 40 45

Val Leu Met Val Ala Gly Met Val Val Phe Tyr Gly Gly Ala Ser Leu

50 55 60

Val Tyr Arg Leu Pro Gln Ser Trp Val Gly Pro Lys Leu Pro Trp Lys

65 70 75 80

Leu Leu His Ala Ala Leu His Leu Met Ala Phe Val Leu Thr Val Val

85 90 95

Gly Leu Val Ala Val Phe Thr Phe His Asn His Gly Arg Thr Ala Asn

100 105 110

Leu Tyr Ser Leu His Ser Trp Leu Gly Ile Thr Thr Val Phe Leu Phe
115 120 125

Ala Cys Gln Trp Phe Leu Gly Phe Ala Val Phe Leu Leu Pro Trp Ala
130 135 140

Ser Met Trp Leu Arg Ser Leu Leu Lys Pro Ile His Val Phe Phe Gly
145 150 155 160

Ala Ala Ile Leu Ser Leu Ser Ile Ala Ser Val Ile Ser Gly Ile Asn
165 170 175

Glu Lys Leu Phe Phe Ser Leu Lys Asn Thr Thr Arg Pro Tyr His Ser
180 185 190

Leu Pro Ser Glu Ala Val Phe Ala Asn Ser Thr Gly Met Leu Val Val
195 200 205

Ala Phe Gly Leu Leu Val Leu Tyr Ile Leu Leu Ala Ser Ser Trp Lys
210 215 220

Arg Pro Glu Pro Gly Ile Leu Thr Asp Arg Gln Pro Leu Leu His Asp
225 230 235 240

Gly Glu

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Tyr Ala Gly Phe Leu Ala Leu Ala Val Gly Cys Val Phe Leu Leu Glu

10

15

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cca gag ctg cca ggc tcg gcg ctg cgc tct ctc tgg agc tcg ctg tgt 149

Pro Glu Leu Pro Gly Ser Ala Leu Arg Ser Leu Trp Ser Ser Leu Cys

25

30

35

40

ctg ggg ccc gcg cct gcg ccc ccg gga ccc gtc tcc ccc gag ggc cgg 197

Leu Gly Pro Ala Pro Ala Pro Pro Gly Pro Val Ser Pro Glu Gly Arg

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50

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ttg gcg gca gcc tgg gac gcg ctt atc gtg cgg cca gtc cgg cgc tgg 245

Leu Ala Ala Ala Trp Asp Ala Leu Ile Val Arg Pro Val Arg Arg Trp

60

65

70

cgc cgc gtg gca gtg gga gtc aat gca tgt gtt gat gtg gtg ctc tca 293
Arg Arg Val Ala Val Gly Val Asn Ala Cys Val Asp Val Val Leu Ser

75

80

85

ggg gtg aag ctc ttg cag gca ctt ggc ctt agt cct ggg aat ggg aaa 341
Gly Val Lys Leu Leu Gln Ala Leu Gly Leu Ser Pro Gly Asn Gly Lys

90

95

100

gat cac agc att ctg cat tca agg aat gat ctg gaa gaa gcc ttc att 389
Asp His Ser Ile Leu His Ser Arg Asn Asp Leu Glu Glu Ala Phe Ile

105

110

115

120

cac ttc atg ggg aag gga gca gct gct gag cgc ttc ttc agt gat aag 437
His Phe Met Gly Lys Gly Ala Ala Ala Glu Arg Phe Phe Ser Asp Lys

125

130

135

gaa act ttt cac gac att gcc cag gtt gcg tca gag ttc cca gga gcc 485
Glu Thr Phe His Asp Ile Ala Gln Val Ala Ser Glu Phe Pro Gly Ala

140

145

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cag cac tat gta gga gga aat gca gct tta att gga cag aaa ttt gca 533
Gln His Tyr Val Gly Gly Asn Ala Ala Leu Ile Gly Gln Lys Phe Ala

155

160

165

gcc aac tca gat tta aag gtt ctt ctt tgc ggt cca gtt ggt cca aag 581
Ala Asn Ser Asp Leu Lys Val Leu Leu Cys Gly Pro Val Gly Pro Lys

170

175

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cta cat gag ctt ctt gat gac aat gtc ttt gtt cca cca gag tca ttg 629

Leu His Glu Leu Leu Asp Asp Asn Val Phe Val Pro Pro Glu Ser Leu
185 190 195 200

cag gaa gtg gat gag ttc cac ctc att tta gag tat caa gca ggg gag 677
Gln Glu Val Asp Glu Phe His Leu Ile Leu Glu Tyr Gln Ala Gly Glu
205 210 215

gag tgg ggc cag tta aaa gct ccc cat gcc aac cga ttc atc ttc tct 725
Glu Trp Gly Gln Leu Lys Ala Pro His Ala Asn Arg Phe Ile Phe Ser
220 225 230

cac gac ctc tcc aac ggg gcc atg aat atg ctg gag gtg ttt gtg tct 773
His Asp Leu Ser Asn Gly Ala Met Asn Met Leu Glu Val Phe Val Ser
235 240 245

agc ctg gag gag ttt cag cca gac ctg gtg gtc ctc tct gga ttg cac 821
Ser Leu Glu Glu Phe Gln Pro Asp Leu Val Val Leu Ser Gly Leu His
250 255 260

atg atg gag gga caa agc aag gag ctc cag agg aag aga ctc ttg gag 869
Met Met Glu Gly Gln Ser Lys Glu Leu Gln Arg Lys Arg Leu Leu Glu
265 270 275 280

gtt gta acc tcc att tct gac atc ccc act ggt att cca gtt cac cta 917
Val Val Thr Ser Ile Ser Asp Ile Pro Thr Gly Ile Pro Val His Leu
285 290 295

gag ctg gcc agt atg act aac agg gag ctc atg agc agc att gtc cat 965
Glu Leu Ala Ser Met Thr Asn Arg Glu Leu Met Ser Ser Ile Val His

300

305

310

cag gtc ttt ccc gcg gtg act tcc ctt ggg ctg aat gaa cag gag ctg 1013

Gln Val Phe Pro Ala Val Thr Ser Leu Gly Leu Asn Glu Gln Glu Leu

315

320

325

tta ttt ctc acc cag tca gcc tct gga cct cac tct tct ctc tct tcc 1061

Leu Phe Leu Thr Gln Ser Ala Ser Gly Pro His Ser Ser Leu Ser Ser

330

335

340

tgg aac ggt gtt cct gat gtg ggc atg gtc agt gac atc ctc ttc tgg 1109

Trp Asn Gly Val Pro Asp Val Gly Met Val Ser Asp Ile Leu Phe Trp

345

350

355

360

atc ttg aaa gaa cat ggg agg agt aaa agc aga gcc tcg gat ctc acc 1157

Ile Leu Lys Glu His Gly Arg Ser Lys Ser Arg Ala Ser Asp Leu Thr

365

370

375

agg atc cat ttc cac acg ctg gtc tac cac atc ctg gca act gtg gat 1205

Arg Ile His Phe His Thr Leu Val Tyr His Ile Leu Ala Thr Val Asp

380

385

390

gga cac tgg gcc aac cag ctg gca gcc gtg gct gca gga gct cgt gtg 1253

Gly His Trp Ala Asn Gln Leu Ala Ala Val Ala Ala Gly Ala Arg Val

395

400

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gct ggg aca cag gcc tgc gcc aca gaa acc ata gac acc agc cga gtg 1301

Ala Gly Thr Gln Ala Cys Ala Thr Glu Thr Ile Asp Thr Ser Arg Val

410

415

420

tct ctg agg gca ccc caa gag ttc atg act tcc cat tcg gag gca ggc 1349

Ser Leu Arg Ala Pro Gln Glu Phe Met Thr Ser His Ser Glu Ala Gly

425 430 435 440

tcc agg att gta tta aac cca aac aag cca gta gta gaa tgg cac aga 1397

Ser Arg Ile Val Leu Asn Pro Asn Lys Pro Val Val Glu Trp His Arg

445 450 455

gag gga ata tcc ttc cac ttc aca cca gta ttg gtg tgt aaa gac ccc 1445

Glu Gly Ile Ser Phe His Phe Thr Pro Val Leu Val Cys Lys Asp Pro

460 465 470

att cga act gta ggc ctt gga gat gcc att tca gcc gaa gga ctc ttc 1493

Ile Arg Thr Val Gly Leu Gly Asp Ala Ile Ser Ala Glu Gly Leu Phe

475 480 485

tat tcg gaa gta cac cct cac tat taggaagatt ctaggggta atttttctga 1547

Tyr Ser Glu Val His Pro His Tyr

490 495

ggaaggagaa ctagccaact taagaattac aggaagaaag tggtttgga gacagccaaa 1607

gaaataaaaag cagattaaac tgtatcaggt acattccagc ctgttgga ctccataaaa 1667

acatttcaga ttttaatccg aatttagcta atgagactgg atttttggtt tttatgttgt 1727

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<213> Homo sapiens

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20 25 30

Arg Ser Leu Trp Ser Ser Leu Cys Leu Gly Pro Ala Pro Ala Pro Pro

35 40 45

Gly Pro Val Ser Pro Glu Gly Arg Leu Ala Ala Ala Trp Asp Ala Leu

50 55 60

Ile Val Arg Pro Val Arg Arg Trp Arg Arg Val Ala Val Gly Val Asn

65 70 75 80

Ala Cys Val Asp Val Val Leu Ser Gly Val Lys Leu Leu Gln Ala Leu

85 90 95

Gly Leu Ser Pro Gly Asn Gly Lys Asp His Ser Ile Leu His Ser Arg

100 105 110

Asn Asp Leu Glu Glu Ala Phe Ile His Phe Met Gly Lys Gly Ala Ala

115 120 125

Ala Glu Arg Phe Phe Ser Asp Lys Glu Thr Phe His Asp Ile Ala Gln

130 135 140

Val Ala Ser Glu Phe Pro Gly Ala Gln His Tyr Val Gly Gly Asn Ala
145 150 155 160

Ala Leu Ile Gly Gln Lys Phe Ala Ala Asn Ser Asp Leu Lys Val Leu
165 170 175

Leu Cys Gly Pro Val Gly Pro Lys Leu His Glu Leu Leu Asp Asp Asn
180 185 190

Val Phe Val Pro Pro Glu Ser Leu Gln Glu Val Asp Glu Phe His Leu
195 200 205

Ile Leu Glu Tyr Gln Ala Gly Glu Glu Trp Gly Gln Leu Lys Ala Pro
210 215 220

His Ala Asn Arg Phe Ile Phe Ser His Asp Leu Ser Asn Gly Ala Met
225 230 235 240

Asn Met Leu Glu Val Phe Val Ser Ser Leu Glu Glu Phe Gln Pro Asp
245 250 255

Leu Val Val Leu Ser Gly Leu His Met Met Glu Gly Gln Ser Lys Glu
260 265 270

Leu Gln Arg Lys Arg Leu Leu Glu Val Val Thr Ser Ile Ser Asp Ile
275 280 285

Pro Thr Gly Ile Pro Val His Leu Glu Leu Ala Ser Met Thr Asn Arg
290 295 300

Glu Leu Met Ser Ser Ile Val His Gln Val Phe Pro Ala Val Thr Ser
305 310 315 320

Leu Gly Leu Asn Glu Gln Glu Leu Leu Phe Leu Thr Gln Ser Ala Ser
325 330 335

Gly Pro His Ser Ser Leu Ser Ser Trp Asn Gly Val Pro Asp Val Gly
340 345 350

Met Val Ser Asp Ile Leu Phe Trp Ile Leu Lys Glu His Gly Arg Ser
355 360 365

Lys Ser Arg Ala Ser Asp Leu Thr Arg Ile His Phe His Thr Leu Val
370 375 380

Tyr His Ile Leu Ala Thr Val Asp Gly His Trp Ala Asn Gln Leu Ala
385 390 395 400

Ala Val Ala Ala Gly Ala Arg Val Ala Gly Thr Gln Ala Cys Ala Thr
405 410 415

Glu Thr Ile Asp Thr Ser Arg Val Ser Leu Arg Ala Pro Gln Glu Phe
420 425 430

Met Thr Ser His Ser Glu Ala Gly Ser Arg Ile Val Leu Asn Pro Asn
435 440 445

Lys Pro Val Val Glu Trp His Arg Glu Gly Ile Ser Phe His Phe Thr

450

455

460

Pro Val Leu Val Cys Lys Asp Pro Ile Arg Thr Val Gly Leu Gly Asp

465

470

475

480

Ala Ile Ser Ala Glu Gly Leu Phe Tyr Ser Glu Val His Pro His Tyr

485

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<210> 301

<211> 3080

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<400> 301

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Cys Phe Trp Gly Gly Ala Val Ala Ala Ala Gly Ala Ala Arg Arg Val

15

20

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ctg ctg ctg ctg ctg ctg ggg gtc ctg tcc gcc cgg ctg cgg cca ggc 147

Leu Leu Leu Leu Leu Leu Gly Val Leu Ser Ala Arg Leu Arg Pro Gly

30

35

40

gcc ctg gcc acc gag cac tac tcg ccg ctc tcc ctg ctc aag cag gag 195

Ala Leu Ala Thr Glu His Tyr Ser Pro Leu Ser Leu Leu Lys Gln Glu

45

50

55

ctg cag cac cgg cag cag cag gag gcc ccg gcg ggc ggc ggc ggc tgc 243

Leu Gln His Arg Gln Gln Gln Glu Ala Pro Ala Gly Gly Gly Gly Cys

60

65

70

agc ccg cag tcc ggg gac tgg ggg gac cag tac tct gcc gag tgc ggc 291

Ser Pro Gln Ser Gly Asp Trp Gly Asp Gln Tyr Ser Ala Glu Cys Gly

75

80

85

90

gag tca tcc ttt ttg aac ttc cat gac tca gac tgc gaa ccc aag gga 339

Glu Ser Ser Phe Leu Asn Phe His Asp Ser Asp Cys Glu Pro Lys Gly

95

100

105

tca tca ccc tgt gac tcc ttg ctt tcc ctc aac act gag aag att ctg 387

Ser Ser Pro Cys Asp Ser Leu Leu Ser Leu Asn Thr Glu Lys Ile Leu

110

115

120

agc cag gcc aag tct att gca gaa cag aag aga ttc ccg ttt gcc act 435

Ser Gln Ala Lys Ser Ile Ala Glu Gln Lys Arg Phe Pro Phe Ala Thr

125

130

135

gat aat gac agc aca aat gaa gag tta gct att gct tat gtc ttg att 483

Asp Asn Asp Ser Thr Asn Glu Glu Leu Ala Ile Ala Tyr Val Leu Ile

140

145

150

ggc agt ggt ctg tat gat gaa gca ata cgg cat ttt tca aca atg ctt 531

Gly Ser Gly Leu Tyr Asp Glu Ala Ile Arg His Phe Ser Thr Met Leu

155

160

165

170

cag att ctg tcc cct ctg gga cga att aat gaa gca gtg aat gac ctc 579

Gln Ile Leu Ser Pro Leu Gly Arg Ile Asn Glu Ala Val Asn Asp Leu

175

180

185

act aaa gct atc caa ctg cag ccc tca gca cgg ctg tac aga cat cgg 627

Thr Lys Ala Ile Gln Leu Gln Pro Ser Ala Arg Leu Tyr Arg His Arg

190

195

200

gga acc ctg tac ttc ata tca gag gac tat gca aca gcc cat gaa gac 675

Gly Thr Leu Tyr Phe Ile Ser Glu Asp Tyr Ala Thr Ala His Glu Asp

205

210

215

ttt cag cag tcc tta gaa ctg aac aaa aac cag cct ata gct atg cta 723

Phe Gln Gln Ser Leu Glu Leu Asn Lys Asn Gln Pro Ile Ala Met Leu

220

225

230

tac aaa ggt tta act ttc ttt cac aga gga ctt ctg aag gaa gct att 771

Tyr Lys Gly Leu Thr Phe Phe His Arg Gly Leu Leu Lys Glu Ala Ile

235

240

245

250

gaa tcc ttc aaa gaa gct ttg aag cag aaa gtt gac ttt att gat gca 819

Glu Ser Phe Lys Glu Ala Leu Lys Gln Lys Val Asp Phe Ile Asp Ala

255

260

265

tat aaa agt cta ggg cag gca tat aga gaa ctg ggc aat ttt gaa gca 867
Tyr Lys Ser Leu Gly Gln Ala Tyr Arg Glu Leu Gly Asn Phe Glu Ala
270 275 280

gcc act gag agc ttt caa aag gca ctg ttg ctc aac caa aat cat gtg 915
Ala Thr Glu Ser Phe Gln Lys Ala Leu Leu Leu Asn Gln Asn His Val
285 290 295

caa acc ctc cag ctc cgg gga atg atg ctc tac cac cac ggc agc tta 963
Gln Thr Leu Gln Leu Arg Gly Met Met Leu Tyr His His Gly Ser Leu
300 305 310

cag gaa gcc ctt aag aac ttt aag cgg tgt ctg cag cta gag cca tat 1011
Gln Glu Ala Leu Lys Asn Phe Lys Arg Cys Leu Gln Leu Glu Pro Tyr
315 320 325 330

aat gaa gtg tgc cag tat atg aaa ggg ctc agc cat gtt gcc atg gga 1059
Asn Glu Val Cys Gln Tyr Met Lys Gly Leu Ser His Val Ala Met Gly
335 340 345

cag ttt tat gaa ggg ata aaa gca caa aca aaa gtt atg ctg aat gat 1107
Gln Phe Tyr Glu Gly Ile Lys Ala Gln Thr Lys Val Met Leu Asn Asp
350 355 360

cct ctc cca ggc cag aag gct agc cct gag tat ctt aaa gta aag tat 1155
Pro Leu Pro Gly Gln Lys Ala Ser Pro Glu Tyr Leu Lys Val Lys Tyr
365 370 375

ctc cga gag tat tct cga tat ctt cat gca cac ctt gat acc ccc ctt 1203

Leu Arg Glu Tyr Ser Arg Tyr Leu His Ala His Leu Asp Thr Pro Leu

380

385

390

acg gaa tat aac att gat gtg gat ctg cct gga agc ttt aag gac cac 1251

Thr Glu Tyr Asn Ile Asp Val Asp Leu Pro Gly Ser Phe Lys Asp His

395

400

405

410

tgg gct aaa aat ttg cct ttc ctc ata gaa gac tac gaa gag cag cca 1299

Trp Ala Lys Asn Leu Pro Phe Leu Ile Glu Asp Tyr Glu Glu Gln Pro

415

420

425

ggg ttg caa ccc cac ata aaa gat gtg tta cat cag aat ttt gag agt 1347

Gly Leu Gln Pro His Ile Lys Asp Val Leu His Gln Asn Phe Glu Ser

430

435

440

tat aag cct gaa gta cag gag ctg att tgt gtg gct gat cgt ttg gga 1395

Tyr Lys Pro Glu Val Gln Glu Leu Ile Cys Val Ala Asp Arg Leu Gly

445

450

455

tcc ctg atg caa tat gaa aca cct ggt ttc ctg cca aac aag aga ata 1443

Ser Leu Met Gln Tyr Glu Thr Pro Gly Phe Leu Pro Asn Lys Arg Ile

460

465

470

cac aga gct atg ggt ttg gcc gca ttg gag gtc atg caa gcc gtg cag 1491

His Arg Ala Met Gly Leu Ala Ala Leu Glu Val Met Gln Ala Val Gln

475

480

485

490

cgt aca tgg acc aac tcg aaa gtt cga atg aat ggg aag aca cgg ttg 1539

Arg Thr Trp Thr Asn Ser Lys Val Arg Met Asn Gly Lys Thr Arg Leu

495

500

505

atg cag tgg aga gac atg ttt gac att gca gtt aaa tgg aga agg att 1587

Met Gln Trp Arg Asp Met Phe Asp Ile Ala Val Lys Trp Arg Arg Ile

510

515

520

gct gac cca gac cag ccc gtg ctg tgg tta gat caa atg cca gca cga 1635

Ala Asp Pro Asp Gln Pro Val Leu Trp Leu Asp Gln Met Pro Ala Arg

525

530

535

agt ctt agc aga ggt ttt aac aac cac att aat tta atc agg gga cag 1683

Ser Leu Ser Arg Gly Phe Asn Asn His Ile Asn Leu Ile Arg Gly Gln

540

545

550

gtg atc aac atg aga tac cta gaa tat ttt gag aaa ata ctt cat ttt 1731

Val Ile Asn Met Arg Tyr Leu Glu Tyr Phe Glu Lys Ile Leu His Phe

555

560

565

570

att aaa gac aga att ctt gtt tat cat gga gct aat aat cct aaa gga 1779

Ile Lys Asp Arg Ile Leu Val Tyr His Gly Ala Asn Asn Pro Lys Gly

575

580

585

ttg ctg gaa gtt cgg gaa gcc ctg gaa aag gta cac aaa gta gaa gac 1827

Leu Leu Glu Val Arg Glu Ala Leu Glu Lys Val His Lys Val Glu Asp

590

595

600

ctt ctt ccg att atg aag ttt aat act aaa acg aag gat ggg ttc acc 1875

Leu Leu Pro Ile Met Lys Phe Asn Thr Lys Thr Lys Asp Gly Phe Thr

605

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Val Asn Thr Lys Val Pro Ser Leu Lys Asp Gln Gly Lys Glu Tyr Asp

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gga ttc aca atc acg att aca gga gac aaa gtt ggc aat ata tta ttt 1971

Gly Phe Thr Ile Thr Ile Thr Gly Asp Lys Val Gly Asn Ile Leu Phe

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tct gtg gaa act caa acc acg gaa gaa agg aca caa tta tat cat gct 2019

Ser Val Glu Thr Gln Thr Thr Glu Glu Arg Thr Gln Leu Tyr His Ala

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gaa ata gat gca ctt tat aaa gat ttg aca gca aaa gga aaa gta ttg 2067

Glu Ile Asp Ala Leu Tyr Lys Asp Leu Thr Ala Lys Gly Lys Val Leu

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att ctt tca tca gaa ttt ggg gag gct gat gct gtc tgc aac tta atc 2115

Ile Leu Ser Ser Glu Phe Gly Glu Ala Asp Ala Val Cys Asn Leu Ile

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tta tcc tta gtt tat tac ttt tat aat tta atg cca ctc tct cga gga 2163

Leu Ser Leu Val Tyr Tyr Phe Tyr Asn Leu Met Pro Leu Ser Arg Gly

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tcc agt gta att gct tac tcg gtc atc gtg gga gca ctg atg gca agt 2211

Ser Ser Val Ile Ala Tyr Ser Val Ile Val Gly Ala Leu Met Ala Ser

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Gly Lys Glu Val Ala Gly Lys Ile Pro Lys Gly Lys Leu Val Asp Phe

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gaa gct atg aca gcc cct ggt tca gag gcc ttt agc aaa gtc gcc aaa 2307
Glu Ala Met Thr Ala Pro Gly Ser Glu Ala Phe Ser Lys Val Ala Lys

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agc tgg atg aac ttg aaa agt att tca cct tct tat aag act ctt cca 2355
Ser Trp Met Asn Leu Lys Ser Ile Ser Pro Ser Tyr Lys Thr Leu Pro

765

770

775

tca gta tca gaa acg ttt cca acg tta aga tcg atg att gag gtg cta 2403
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aac aca gac tct tct cca cgt tgt ctt aag aaa ctc tagttctgct 2449
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Gly Val Leu Ser Ala Arg Leu Arg Pro Gly Ala Leu Ala Thr Glu His

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Tyr Ser Pro Leu Ser Leu Leu Lys Gln Glu Leu Gln His Arg Gln Gln
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Gln Glu Ala Pro Ala Gly Gly Gly Gly Cys Ser Pro Gln Ser Gly Asp
65 70 75 80

Trp Gly Asp Gln Tyr Ser Ala Glu Cys Gly Glu Ser Ser Phe Leu Asn
85 90 95

Phe His Asp Ser Asp Cys Glu Pro Lys Gly Ser Ser Pro Cys Asp Ser
100 105 110

Leu Leu Ser Leu Asn Thr Glu Lys Ile Leu Ser Gln Ala Lys Ser Ile
115 120 125

Ala Glu Gln Lys Arg Phe Pro Phe Ala Thr Asp Asn Asp Ser Thr Asn
130 135 140

Glu Glu Leu Ala Ile Ala Tyr Val Leu Ile Gly Ser Gly Leu Tyr Asp
145 150 155 160

Glu Ala Ile Arg His Phe Ser Thr Met Leu Gln Ile Leu Ser Pro Leu
165 170 175

Gly Arg Ile Asn Glu Ala Val Asn Asp Leu Thr Lys Ala Ile Gln Leu
180 185 190

Gln Pro Ser Ala Arg Leu Tyr Arg His Arg Gly Thr Leu Tyr Phe Ile
195 200 205

Ser Glu Asp Tyr Ala Thr Ala His Glu Asp Phe Gln Gln Ser Leu Glu

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215

220

Leu Asn Lys Asn Gln Pro Ile Ala Met Leu Tyr Lys Gly Leu Thr Phe

225

230

235

240

Phe His Arg Gly Leu Leu Lys Glu Ala Ile Glu Ser Phe Lys Glu Ala

245

250

255

Leu Lys Gln Lys Val Asp Phe Ile Asp Ala Tyr Lys Ser Leu Gly Gln

260

265

270

Ala Tyr Arg Glu Leu Gly Asn Phe Glu Ala Ala Thr Glu Ser Phe Gln

275

280

285

Lys Ala Leu Leu Leu Asn Gln Asn His Val Gln Thr Leu Gln Leu Arg

290

295

300

Gly Met Met Leu Tyr His His Gly Ser Leu Gln Glu Ala Leu Lys Asn

305

310

315

320

Phe Lys Arg Cys Leu Gln Leu Glu Pro Tyr Asn Glu Val Cys Gln Tyr

325

330

335

Met Lys Gly Leu Ser His Val Ala Met Gly Gln Phe Tyr Glu Gly Ile

340

345

350

Lys Ala Gln Thr Lys Val Met Leu Asn Asp Pro Leu Pro Gly Gln Lys

355

360

365

Ala Ser Pro Glu Tyr Leu Lys Val Lys Tyr Leu Arg Glu Tyr Ser Arg

370

375

380

Tyr Leu His Ala His Leu Asp Thr Pro Leu Thr Glu Tyr Asn Ile Asp

385

390

395

400

Val Asp Leu Pro Gly Ser Phe Lys Asp His Trp Ala Lys Asn Leu Pro

405

410

415

Phe Leu Ile Glu Asp Tyr Glu Glu Gln Pro Gly Leu Gln Pro His Ile

420

425

430

Lys Asp Val Leu His Gln Asn Phe Glu Ser Tyr Lys Pro Glu Val Gln

435

440

445

Glu Leu Ile Cys Val Ala Asp Arg Leu Gly Ser Leu Met Gln Tyr Glu

450

455

460

Thr Pro Gly Phe Leu Pro Asn Lys Arg Ile His Arg Ala Met Gly Leu

465

470

475

480

Ala Ala Leu Glu Val Met Gln Ala Val Gln Arg Thr Trp Thr Asn Ser

485

490

495

Lys Val Arg Met Asn Gly Lys Thr Arg Leu Met Gln Trp Arg Asp Met

500

505

510

Phe Asp Ile Ala Val Lys Trp Arg Arg Ile Ala Asp Pro Asp Gln Pro
515 520 525

Val Leu Trp Leu Asp Gln Met Pro Ala Arg Ser Leu Ser Arg Gly Phe
530 535 540

Asn Asn His Ile Asn Leu Ile Arg Gly Gln Val Ile Asn Met Arg Tyr
545 550 555 560

Leu Glu Tyr Phe Glu Lys Ile Leu His Phe Ile Lys Asp Arg Ile Leu
565 570 575

Val Tyr His Gly Ala Asn Asn Pro Lys Gly Leu Leu Glu Val Arg Glu
580 585 590

Ala Leu Glu Lys Val His Lys Val Glu Asp Leu Leu Pro Ile Met Lys
595 600 605

Phe Asn Thr Lys Thr Lys Asp Gly Phe Thr Val Asn Thr Lys Val Pro
610 615 620

Ser Leu Lys Asp Gln Gly Lys Glu Tyr Asp Gly Phe Thr Ile Thr Ile
625 630 635 640

Thr Gly Asp Lys Val Gly Asn Ile Leu Phe Ser Val Glu Thr Gln Thr
645 650 655

Thr Glu Glu Arg Thr Gln Leu Tyr His Ala Glu Ile Asp Ala Leu Tyr
660 665 670

Lys Asp Leu Thr Ala Lys Gly Lys Val Leu Ile Leu Ser Ser Glu Phe
675 680 685

Gly Glu Ala Asp Ala Val Cys Asn Leu Ile Leu Ser Leu Val Tyr Tyr
690 695 700

Phe Tyr Asn Leu Met Pro Leu Ser Arg Gly Ser Ser Val Ile Ala Tyr
705 710 715 720

Ser Val Ile Val Gly Ala Leu Met Ala Ser Gly Lys Glu Val Ala Gly
725 730 735

Lys Ile Pro Lys Gly Lys Leu Val Asp Phe Glu Ala Met Thr Ala Pro
740 745 750

Gly Ser Glu Ala Phe Ser Lys Val Ala Lys Ser Trp Met Asn Leu Lys
755 760 765

Ser Ile Ser Pro Ser Tyr Lys Thr Leu Pro Ser Val Ser Glu Thr Phe
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Ala Thr Leu Leu Ile Pro Ala Ala Ala Val Tyr Glu Asp Gln Val Gly

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aag ttt gat tgg aga cag caa tat gtt ggg aag gtc aag ttt gcc tcc 145

Lys Phe Asp Trp Arg Gln Gln Tyr Val Gly Lys Val Lys Phe Ala Ser

30 35 40

ttg gaa ttt tcc cct gga tcc aag aag ttg gtt gta gcc aca gag aag 193

Leu Glu Phe Ser Pro Gly Ser Lys Lys Leu Val Val Ala Thr Glu Lys

45 50 55 60

aat gtg att gca gca tta aat tcc cga act ggg gag atc tat gtg atc 241

Asn Val Ile Ala Ala Leu Asn Ser Arg Thr Gly Glu Ile Tyr Val Ile

65 70 75

act gtg tcc aat gga ggc cga atc atg cgt tcc tgg gag act aac atc 289
Thr Val Ser Asn Gly Gly Arg Ile Met Arg Ser Trp Glu Thr Asn Ile

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ggg ggc ctg aac tgg gag ata acc ctg gac agt ggc agt ttc cag gca 337
Gly Gly Leu Asn Trp Glu Ile Thr Leu Asp Ser Gly Ser Phe Gln Ala

95

100

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ctt ggg ctg gtt ggc ctg cag gag tct gta agg tac atc gca gtc ctg 385
Leu Gly Leu Val Gly Leu Gln Glu Ser Val Arg Tyr Ile Ala Val Leu

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115

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aag aag act aca ctt gcc ctc cat cac ctc tcc agt ggg cac ctc aag 433
Lys Lys Thr Thr Leu Ala Leu His His Leu Ser Ser Gly His Leu Lys

125

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tgg gtg gaa cat ctc cca gaa agt gac agc atc cac tac cag atg gtg 481
Trp Val Glu His Leu Pro Glu Ser Asp Ser Ile His Tyr Gln Met Val

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150

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tat tct tac ggc tct ggg gtg gtg tgg gcc ctc gga gtt gtt ccc ttc 529
Tyr Ser Tyr Gly Ser Gly Val Val Trp Ala Leu Gly Val Val Pro Phe

160

165

170

agc cat gtg aac att gtc aag ttt aat gtg gaa gat gga gag att gtt 577
Ser His Val Asn Ile Val Lys Phe Asn Val Glu Asp Gly Glu Ile Val

175

180

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cag cag gtt agg gtt tca act ccg tgg ctg cag cac ctg tct gga gcc 625

Gln Gln Val Arg Val Ser Thr Pro Trp Leu Gln His Leu Ser Gly Ala

190

195

200

tgt ggt gtg gtg gat gag gct gtc ctg gtg tgt cct gac ccg agc tca 673

Cys Gly Val Val Asp Glu Ala Val Leu Val Cys Pro Asp Pro Ser Ser

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cgt tcc ctc caa act ttg gct ctg gag acg gaa tgg gag ttg aga cag 721

Arg Ser Leu Gln Thr Leu Ala Leu Glu Thr Glu Trp Glu Leu Arg Gln

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Ile Pro Leu Gln Ser Leu Asp Leu Glu Phe Gly Ser Gly Phe Gln Pro

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cgg gtc ctg cct acc cag ccc aac cca gtg gac gct tcc cgg gcc cag 817

Arg Val Leu Pro Thr Gln Pro Asn Pro Val Asp Ala Ser Arg Ala Gln

255

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ttc ttc ctg cac ttg tcc cca agc cac tat gct ctg ctg cag tac cat 865

Phe Phe Leu His Leu Ser Pro Ser His Tyr Ala Leu Leu Gln Tyr His

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275

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tat gga acg ctg agt ttg ctt aaa aac ttc cca cag act gcc cta gtg 913

Tyr Gly Thr Leu Ser Leu Leu Lys Asn Phe Pro Gln Thr Ala Leu Val

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290

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agc ttt gcc acc act ggg gag aag acg gtg gct gca gtc atg gcc tgt 961

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cgg aat gaa gtg cag aaa act agc aat tct gaa gat ggg tca atg ggg 1009
Arg Asn Glu Val Gln Lys Thr Ser Asn Ser Glu Asp Gly Ser Met Gly
320 325 330

agc ttt tcg gag aag tct agt tca aag gac tct ctg gct tgc ttc aat 1057
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335 340 345

cag acc tac acc att aac cta tac ctc gtg gag aca ggt cgg cgg ctg 1105
Gln Thr Tyr Thr Ile Asn Leu Tyr Leu Val Glu Thr Gly Arg Arg Leu
350 355 360

ctg gac acc acg ata aca ttt agc ctg gaa cag agc ggc act cgg cct 1153
Leu Asp Thr Thr Ile Thr Phe Ser Leu Glu Gln Ser Gly Thr Arg Pro
365 370 375 380

gag cgg ctg tat atc cag gtg ttc ttg aag aag gat gac tca gtg ggc 1201
Glu Arg Leu Tyr Ile Gln Val Phe Leu Lys Lys Asp Asp Ser Val Gly
385 390 395

tac cgg gct ttg gtg cag aca gag gat cat ctg cta ctt ttc ctg cag 1249
Tyr Arg Ala Leu Val Gln Thr Glu Asp His Leu Leu Leu Phe Leu Gln
400 405 410

cag ttg gca ggg aag gtg gtg ctg tgg agc cgt gag gag tcc ctg gca 1297
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gcc gag ctg gaa gga gaa ttt ggc aaa aag gca gat ggc ttg ctg ggg 1393			
Ala Glu Leu Glu Gly Glu Phe Gly Lys Lys Ala Asp Gly Leu Leu Gly			
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atg ttc ctg aaa cgc ctc tcg tct cag ctt atc ctg ctg caa gca tgg 1441			
Met Phe Leu Lys Arg Leu Ser Ser Gln Leu Ile Leu Leu Gln Ala Trp			
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Thr Ser His Leu Trp Lys Met Phe Tyr Asp Ala Arg Lys Pro Arg Ser			
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Gln Ile Lys Asn Glu Ile Asn Ile Asp Thr Leu Ala Arg Asp Glu Phe			
495	500	505	
aac ctc cag aag atg atg gtg atg gta aca gcc tca ggc aag ctt ttt 1585			
Asn Leu Gln Lys Met Met Val Met Val Thr Ala Ser Gly Lys Leu Phe			
510	515	520	
ggc att gag agc agc tct ggc acc atc ctg tgg aaa cag tat cta ccc 1633			
Gly Ile Glu Ser Ser Ser Gly Thr Ile Leu Trp Lys Gln Tyr Leu Pro			
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aat gtc aag ccc gac tcc tcc tat aaa ctg atg gtc cag aga act act 1681

Asn Val Lys Pro Asp Ser Ser Tyr Lys Leu Met Val Gln Arg Thr Thr

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gct cat ttc ccc cat ccc cca cag tgc acc ctg ctg gtg aag gac aag 1729

Ala His Phe Pro His Pro Pro Gln Cys Thr Leu Leu Val Lys Asp Lys

560

565

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gag tcg gga atg agt tct ctg tat gtc ttc aat ccc att ttt ggg aag 1777

Glu Ser Gly Met Ser Ser Leu Tyr Val Phe Asn Pro Ile Phe Gly Lys

575

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Trp Ser Gln Val Ala Pro Pro Val Leu Lys Arg Pro Ile Leu Gln Ser

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605

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Ile Asp Asp Glu Tyr Lys Val Thr Ala Phe Pro Ala Thr Arg Asn Val

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 655 660 665

acc act gag ctg agt tgg gag ctg acc att ccc cca gaa gta cag cgg 2065
 Thr Thr Glu Leu Ser Trp Glu Leu Thr Ile Pro Pro Glu Val Gln Arg
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 Ile Val Lys Val Lys Gly Lys Arg Ser Ser Glu His Val His Ser Gln
 685 690 695 700

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 Gly His Val Met Gly Asp Arg Ser Val Leu Tyr Lys Ser Leu Asn Pro
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aac ctg ctg gcc gtg gtg aca gag agc acg gac gcg cac cat gag cgc 2209
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 720 725 730

acc ttt att ggc atc ttc ctc att gat ggc gtc act ggg cgt atc att 2257
 Thr Phe Ile Gly Ile Phe Leu Ile Asp Gly Val Thr Gly Arg Ile Ile
 735 740 745

cac tcc tct gtg cag aag aaa gcc aaa ggc cct gtc cat atc gtg cat 2305
 His Ser Ser Val Gln Lys Lys Ala Lys Gly Pro Val His Ile Val His
 750 755 760

tca gag aac tgg gtg gtg tac cag tac tgg aac acc aag gct cgg cgc 2353

Ser Glu Asn Trp Val Val Tyr Gln Tyr Trp Asn Thr Lys Ala Arg Arg
765 770 775 780

aac gag ttt acc gta ctg gag ctc tat gag ggc act gag caa tac aac 2401
Asn Glu Phe Thr Val Leu Glu Leu Tyr Glu Gly Thr Glu Gln Tyr Asn
785 790 795

gcc acc gcc ttc agc ttc ctg gac cgc ccc cag ctg ccc cag gtc ctc 2449
Ala Thr Ala Phe Ser Phe Leu Asp Arg Pro Gln Leu Pro Gln Val Leu
800 805 810

cag cag tcc tat atc ttc ccg tcc tcc atc agt gcc atg gag gcc acc 2497
Gln Gln Ser Tyr Ile Phe Pro Ser Ser Ile Ser Ala Met Glu Ala Thr
815 820 825

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830 835 840

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845 850 855 860

ccc gag atc cca aca gaa caa agc aga gag gag aac tta atc ccg tat 2641
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865 870 875

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885

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aca gtt tct cga atg cga ggt atc tac aca gct ccc tcg ggt ctg gag 2737

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895

900

905

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Ser Thr Cys Leu Val Val Ala Tyr Gly Leu Asp Ile Tyr Gln Thr Arg

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gtc tac cca tcc aag cag ttt gac gtt ctg aag gat gac tat gac tac 2833

Val Tyr Pro Ser Lys Gln Phe Asp Val Leu Lys Asp Asp Tyr Asp Tyr

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935

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gtg tta atc agc agc gtc ctc ttt ggc ctg gtt ttt gcc acc atg atc 2881

Val Leu Ile Ser Ser Val Leu Phe Gly Leu Val Phe Ala Thr Met Ile

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Thr Lys Arg Leu Ala Gln Val Lys Leu Leu Asn Arg Ala Trp Arg

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35 40 45

Pro Gly Ser Lys Lys Leu Val Val Ala Thr Glu Lys Asn Val Ile Ala

50 55 60

Ala Leu Asn Ser Arg Thr Gly Glu Ile Tyr Val Ile Thr Val Ser Asn

65 70 75 80

Gly Gly Arg Ile Met Arg Ser Trp Glu Thr Asn Ile Gly Gly Leu Asn

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90

95

Trp Glu Ile Thr Leu Asp Ser Gly Ser Phe Gln Ala Leu Gly Leu Val

100

105

110

Gly Leu Gln Glu Ser Val Arg Tyr Ile Ala Val Leu Lys Lys Thr Thr

115

120

125

Leu Ala Leu His His Leu Ser Ser Gly His Leu Lys Trp Val Glu His

130

135

140

Leu Pro Glu Ser Asp Ser Ile His Tyr Gln Met Val Tyr Ser Tyr Gly

145

150

155

160

Ser Gly Val Val Trp Ala Leu Gly Val Val Pro Phe Ser His Val Asn

165

170

175

Ile Val Lys Phe Asn Val Glu Asp Gly Glu Ile Val Gln Gln Val Arg

180

185

190

Val Ser Thr Pro Trp Leu Gln His Leu Ser Gly Ala Cys Gly Val Val

195

200

205

Asp Glu Ala Val Leu Val Cys Pro Asp Pro Ser Ser Arg Ser Leu Gln

210

215

220

Thr Leu Ala Leu Glu Thr Glu Trp Glu Leu Arg Gln Ile Pro Leu Gln

225

230

235

240

Ser Leu Asp Leu Glu Phe Gly Ser Gly Phe Gln Pro Arg Val Leu Pro

245

250

255

Thr Gln Pro Asn Pro Val Asp Ala Ser Arg Ala Gln Phe Phe Leu His

260

265

270

Leu Ser Pro Ser His Tyr Ala Leu Leu Gln Tyr His Tyr Gly Thr Leu

275

280

285

Ser Leu Leu Lys Asn Phe Pro Gln Thr Ala Leu Val Ser Phe Ala Thr

290

295

300

Thr Gly Glu Lys Thr Val Ala Ala Val Met Ala Cys Arg Asn Glu Val

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Gln Lys Thr Ser Asn Ser Glu Asp Gly Ser Met Gly Ser Phe Ser Glu

325

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335

Lys Ser Ser Ser Lys Asp Ser Leu Ala Cys Phe Asn Gln Thr Tyr Thr

340

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350

Ile Asn Leu Tyr Leu Val Glu Thr Gly Arg Arg Leu Leu Asp Thr Thr

355

360

365

Ile Thr Phe Ser Leu Glu Gln Ser Gly Thr Arg Pro Glu Arg Leu Tyr

370

375

380

Ile Gln Val Phe Leu Lys Lys Asp Asp Ser Val Gly Tyr Arg Ala Leu

385

390

395

400

Val Gln Thr Glu Asp His Leu Leu Leu Phe Leu Gln Gln Leu Ala Gly

405

410

415

Lys Val Val Leu Trp Ser Arg Glu Glu Ser Leu Ala Glu Val Val Cys

420

425

430

Leu Glu Met Val Asp Leu Pro Leu Thr Gly Ala Gln Ala Glu Leu Glu

435

440

445

Gly Glu Phe Gly Lys Lys Ala Asp Gly Leu Leu Gly Met Phe Leu Lys

450

455

460

Arg Leu Ser Ser Gln Leu Ile Leu Leu Gln Ala Trp Thr Ser His Leu

465

470

475

480

Trp Lys Met Phe Tyr Asp Ala Arg Lys Pro Arg Ser Gln Ile Lys Asn

485

490

495

Glu Ile Asn Ile Asp Thr Leu Ala Arg Asp Glu Phe Asn Leu Gln Lys

500

505

510

Met Met Val Met Val Thr Ala Ser Gly Lys Leu Phe Gly Ile Glu Ser

515

520

525

Ser Ser Gly Thr Ile Leu Trp Lys Gln Tyr Leu Pro Asn Val Lys Pro

530

535

540

Asp Ser Ser Tyr Lys Leu Met Val Gln Arg Thr Thr Ala His Phe Pro

545	550	555	560
His Pro Pro Gln Cys Thr Leu Leu Val Lys Asp Lys Glu Ser Gly Met			
	565	570	575
Ser Ser Leu Tyr Val Phe Asn Pro Ile Phe Gly Lys Trp Ser Gln Val			
	580	585	590
Ala Pro Pro Val Leu Lys Arg Pro Ile Leu Gln Ser Leu Leu Leu Pro			
	595	600	605
Val Met Asp Gln Asp Tyr Ala Lys Val Leu Leu Leu Ile Asp Asp Glu			
	610	615	620
Tyr Lys Val Thr Ala Phe Pro Ala Thr Arg Asn Val Leu Arg Gln Leu			
	625	630	635
			640
His Glu Leu Ala Pro Ser Ile Phe Phe Tyr Leu Val Asp Ala Glu Gln			
	645	650	655
Gly Arg Leu Cys Gly Tyr Arg Leu Arg Lys Asp Leu Thr Thr Glu Leu			
	660	665	670
Ser Trp Glu Leu Thr Ile Pro Pro Glu Val Gln Arg Ile Val Lys Val			
	675	680	685
Lys Gly Lys Arg Ser Ser Glu His Val His Ser Gln Gly His Val Met			
	690	695	700

Gly Asp Arg Ser Val Leu Tyr Lys Ser Leu Asn Pro Asn Leu Leu Ala
705 710 715 720

Val Val Thr Glu Ser Thr Asp Ala His His Glu Arg Thr Phe Ile Gly
725 730 735

Ile Phe Leu Ile Asp Gly Val Thr Gly Arg Ile Ile His Ser Ser Val
740 745 750

Gln Lys Lys Ala Lys Gly Pro Val His Ile Val His Ser Glu Asn Trp
755 760 765

Val Val Tyr Gln Tyr Trp Asn Thr Lys Ala Arg Arg Asn Glu Phe Thr
770 775 780

Val Leu Glu Leu Tyr Glu Gly Thr Glu Gln Tyr Asn Ala Thr Ala Phe
785 790 795 800

Ser Phe Leu Asp Arg Pro Gln Leu Pro Gln Val Leu Gln Gln Ser Tyr
805 810 815

Ile Phe Pro Ser Ser Ile Ser Ala Met Glu Ala Thr Ile Thr Glu Arg
820 825 830

Gly Ile Thr Ser Arg His Leu Leu Ile Gly Leu Pro Ser Gly Ala Ile
835 840 845

Leu Ser Leu Pro Lys Ala Leu Leu Asp Pro Arg Arg Pro Glu Ile Pro
850 855 860

Thr Glu Gln Ser Arg Glu Glu Asn Leu Ile Pro Tyr Ser Pro Asp Val
865 870 875 880

Gln Ile His Ala Glu Arg Phe Ile Asn Tyr Asn Gln Thr Val Ser Arg
885 890 895

Met Arg Gly Ile Tyr Thr Ala Pro Ser Gly Leu Glu Ser Thr Cys Leu
900 905 910

Val Val Ala Tyr Gly Leu Asp Ile Tyr Gln Thr Arg Val Tyr Pro Ser
915 920 925

Lys Gln Phe Asp Val Leu Lys Asp Asp Tyr Asp Tyr Val Leu Ile Ser
930 935 940

Ser Val Leu Phe Gly Leu Val Phe Ala Thr Met Ile Thr Lys Arg Leu
945 950 955 960

Ala Gln Val Lys Leu Leu Asn Arg Ala Trp Arg
965 970

<210> 305

<211> 1085

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (1)..(813)

<400> 305

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Met Ser Pro Leu Leu Gly Leu Arg Ser Glu Leu Gln Asp Thr Cys Thr

1 5 10 15

tcg ctg gga ctg atg ctg tcg gtg gtg ctg ctc atg ggg ctg gcc cgc 96

Ser Leu Gly Leu Met Leu Ser Val Val Leu Leu Met Gly Leu Ala Arg

20 25 30

gta gtc gcc cgg cag cag ctg cac agg ccg gtg gcc cac gcc ttc gtc 144

Val Val Ala Arg Gln Gln Leu His Arg Pro Val Ala His Ala Phe Val

35 40 45

ctg gag ttt cta gcc acc ttc cag ctc tgc tgc tgc acc cac gag ctg 192

Leu Glu Phe Leu Ala Thr Phe Gln Leu Cys Cys Cys Thr His Glu Leu

50 55 60

caa ctg ctg agc gaa cag cac ccc gcg cac ccc acc tgg acg ctg acg 240

Gln Leu Leu Ser Glu Gln His Pro Ala His Pro Thr Trp Thr Leu Thr

65 70 75 80

ctc gtc tac ttc ttc tcg ctt gtg cat ggc ctg act ctg gtg ggc acg 288

Leu Val Tyr Phe Phe Ser Leu Val His Gly Leu Thr Leu Val Gly Thr

85 90 95

tcc agc aac ccg tgc ggc gtg atg atg cag atg atg ctg ggg ggc atg 336

Ser Ser Asn Pro Cys Gly Val Met Met Gln Met Met Leu Gly Gly Met

100

105

110

tcc ccc gag acg ggt gcg gtg agg cta ttg gct cag ctg gtt agt gcc 384

Ser Pro Glu Thr Gly Ala Val Arg Leu Leu Ala Gln Leu Val Ser Ala

115

120

125

ctg tgc agc agg tac tgc aca agc gcc ttg tgg agc ttg ggt ctg acc 432

Leu Cys Ser Arg Tyr Cys Thr Ser Ala Leu Trp Ser Leu Gly Leu Thr

130

135

140

cag tat cac gtc agc gag agg agc ttc gct tgc aag aat ccc atc cga 480

Gln Tyr His Val Ser Glu Arg Ser Phe Ala Cys Lys Asn Pro Ile Arg

145

150

155

160

gtc gac ttg ctc aaa gcg gtc atc aca gag gcc gtc tgc tcc ttt ctc 528

Val Asp Leu Leu Lys Ala Val Ile Thr Glu Ala Val Cys Ser Phe Leu

165

170

175

ttc cac agc gct ctg ctg cac ttc cag gaa gtc cga acc aag ctt cgt 576

Phe His Ser Ala Leu Leu His Phe Gln Glu Val Arg Thr Lys Leu Arg

180

185

190

atc cac ctg ctg gct gca ctc atc acc ttt ttg gtc tat gca gga gga 624

Ile His Leu Leu Ala Ala Leu Ile Thr Phe Leu Val Tyr Ala Gly Gly

195

200

205

agt cta aca gga gct gta ttt aat cca gct ttg gca ctt tcg cta cat 672

Ser Leu Thr Gly Ala Val Phe Asn Pro Ala Leu Ala Leu Ser Leu His

210

215

220

ttc atg tgt ttt gat gaa gca ttc cct cag ttt ttt ata gta tac tgg 720

Phe Met Cys Phe Asp Glu Ala Phe Pro Gln Phe Phe Ile Val Tyr Trp

225

230

235

240

ctg gct cct tct tta ggt ata ttg ttg atg att ttg atg ttc agc ttt 768

Leu Ala Pro Ser Leu Gly Ile Leu Leu Met Ile Leu Met Phe Ser Phe

245

250

255

ttc ctt cca tgg ctg cat aac aac cat aca att aat aaa aag gaa 813

Phe Leu Pro Trp Leu His Asn Asn His Thr Ile Asn Lys Lys Glu

260

265

270

taactgttcc aaagactcag actaacatac aggacagtcc agctggatgt gataaagatt 873

ttatcacctc atatggaaaa caccggctgc actggattca tcagtgttaa cttcctttga 933

ggaagctgcc ttatagtttt catcactggg actttaaaaa aaaattactg tgaaaatgag 993

gtattctgta cttctcagtt aagacttggt ctttgagtga tgtattaaat gctgctagaa 1053

aagcctcatt acattaaata taaatcaatc tt

1085

<210> 306

<211> 271

<212> PRT

<213> Homo sapiens

<400> 306

Met Ser Pro Leu Leu Gly Leu Arg Ser Glu Leu Gln Asp Thr Cys Thr

1 5 10 15

Ser Leu Gly Leu Met Leu Ser Val Val Leu Leu Met Gly Leu Ala Arg

20 25 30

Val Val Ala Arg Gln Gln Leu His Arg Pro Val Ala His Ala Phe Val

35 40 45

Leu Glu Phe Leu Ala Thr Phe Gln Leu Cys Cys Cys Thr His Glu Leu

50 55 60

Gln Leu Leu Ser Glu Gln His Pro Ala His Pro Thr Trp Thr Leu Thr

65 70 75 80

Leu Val Tyr Phe Phe Ser Leu Val His Gly Leu Thr Leu Val Gly Thr

85 90 95

Ser Ser Asn Pro Cys Gly Val Met Met Gln Met Met Leu Gly Gly Met

100 105 110

Ser Pro Glu Thr Gly Ala Val Arg Leu Leu Ala Gln Leu Val Ser Ala

115 120 125

Leu Cys Ser Arg Tyr Cys Thr Ser Ala Leu Trp Ser Leu Gly Leu Thr

130 135 140

Gln Tyr His Val Ser Glu Arg Ser Phe Ala Cys Lys Asn Pro Ile Arg
145 150 155 160

Val Asp Leu Leu Lys Ala Val Ile Thr Glu Ala Val Cys Ser Phe Leu
165 170 175

Phe His Ser Ala Leu Leu His Phe Gln Glu Val Arg Thr Lys Leu Arg
180 185 190

Ile His Leu Leu Ala Ala Leu Ile Thr Phe Leu Val Tyr Ala Gly Gly
195 200 205

Ser Leu Thr Gly Ala Val Phe Asn Pro Ala Leu Ala Leu Ser Leu His
210 215 220

Phe Met Cys Phe Asp Glu Ala Phe Pro Gln Phe Phe Ile Val Tyr Trp
225 230 235 240

Leu Ala Pro Ser Leu Gly Ile Leu Leu Met Ile Leu Met Phe Ser Phe
245 250 255

Phe Leu Pro Trp Leu His Asn Asn His Thr Ile Asn Lys Lys Glu
260 265 270

<210> 307

<211> 2048

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (97)..(897)

<400> 307

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agaggctgcg gggcggacgc gcgggccggc gcagcc atg gtg aag att agc ttc 114

Met Val Lys Ile Ser Phe

1

5

cag ccc gcc gtg gct ggc atc aag ggc gac aag gct gac aag gcg tcg 162

Gln Pro Ala Val Ala Gly Ile Lys Gly Asp Lys Ala Asp Lys Ala Ser

10

15

20

gcg tcg gcc cct gcg ccg gcc tcg gcc acc gag atc ctg ctg acg ccg 210

Ala Ser Ala Pro Ala Pro Ala Ser Ala Thr Glu Ile Leu Leu Thr Pro

25

30

35

gct agg gag gag cag ccc cca caa cat cga tcc aag agg ggg ggc tca 258

Ala Arg Glu Glu Gln Pro Pro Gln His Arg Ser Lys Arg Gly Gly Ser

40

45

50

gtg ggc ggc gtg tgc tac ctg tcg atg ggc atg gtc gtg ctg ctc atg 306

Val Gly Gly Val Cys Tyr Leu Ser Met Gly Met Val Val Leu Leu Met

55

60

65

70

ggc ctc gtg ttc gcc tct gtc tac atc tac aga tac ttc ttc ctt gcg 354

Gly Leu Val Phe Ala Ser Val Tyr Ile Tyr Arg Tyr Phe Phe Leu Ala

75

80

85

cag ctg gcc cga gat aac ttc ttc cgc tgt ggt gtg ctg tat gag gac 402

Gln Leu Ala Arg Asp Asn Phe Phe Arg Cys Gly Val Leu Tyr Glu Asp

90

95

100

tcc ctg tcc tcc cag gtc cgg act cag atg gag ctg gaa gag gat gtg 450

Ser Leu Ser Ser Gln Val Arg Thr Gln Met Glu Leu Glu Glu Asp Val

105

110

115

aaa atc tac ctc gac gag aac tac gag cgc atc aac gtg cct gtg ccc 498

Lys Ile Tyr Leu Asp Glu Asn Tyr Glu Arg Ile Asn Val Pro Val Pro

120

125

130

cag ttt ggc ggc ggt gac cct gca gac atc atc cat gac ttc cag cgg 546

Gln Phe Gly Gly Gly Asp Pro Ala Asp Ile Ile His Asp Phe Gln Arg

135

140

145

150

ggt ctg act gcg tac cat gat atc tcc ctg gac aag tgc tat gtc atc 594

Gly Leu Thr Ala Tyr His Asp Ile Ser Leu Asp Lys Cys Tyr Val Ile

155

160

165

gaa ctc aac acc acc att gtg ctg ccc cct cgc aac ttc tgg gag ctc 642

Glu Leu Asn Thr Thr Ile Val Leu Pro Pro Arg Asn Phe Trp Glu Leu

170

175

180

ctc atg aac gtg aag agg ggg acc tac ctg ccg cag acg tac atc atc 690

Leu Met Asn Val Lys Arg Gly Thr Tyr Leu Pro Gln Thr Tyr Ile Ile

185

190

195

cag gag gag atg gtg gtc acg gag cat gtc agt gac aag gag gcc ctg 738

Gln Glu Glu Met Val Val Thr Glu His Val Ser Asp Lys Glu Ala Leu

200

205

210

ggg tcc ttc atc tac cac ctg tgc aac ggg aaa gac acc tac cgg ctc 786

Gly Ser Phe Ile Tyr His Leu Cys Asn Gly Lys Asp Thr Tyr Arg Leu

215

220

225

230

cgg cgc cgg gca acg cgg agg cgg atc aac aag cgt ggg gcc aag aac 834

Arg Arg Arg Ala Thr Arg Arg Arg Ile Asn Lys Arg Gly Ala Lys Asn

235

240

245

tgc aat gcc atc cgc cac ttc gag aac acc ttc gtg gtg gag acg ctc 882

Cys Asn Ala Ile Arg His Phe Glu Asn Thr Phe Val Val Glu Thr Leu

250

255

260

atc tgc ggg gtg gtg tgaggccctc ctccccaga acccctgcc gtgttctct 937

Ile Cys Gly Val Val

265

tttcttcttt cggctgctc tctggccctc ctcttcccc ctgcttagct tgtactttgg 997

acgcgtttct atagaggtga catgtctctc cattcctctc caaccctgcc cacctccctg 1057

taccagagct gtgatctctc ggtggggggc ccatctctgc tgacctgggt gtggcggagg 1117

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acaagcaggg tcccctcagt caaggcagt ggtatgggcgg ctgaggaacg gggcaggcaa 1657

ggtcactgct cagtcacgtc cacgggggac gagccgtggg ttctgctgag taggtggagc 1717

tcattgcttt ctccaagctt ggaactgttt tgaaagataa cacagaggga aaggagagc 1777

cacctggtac ttgtccaccc tgctctctct gttctgaaat tccatcccc tcagcttagg 1837

ggaatgcacc tttttccctt tccttctcac ttttgcattg ttttactgat cattcgatat 1897

gctaaccgtt ctcagccctg agccttggag aggagggctg taacgccttc agtcagtctc 1957

tggggatgaa actcttaaat gctttgtata ttttctcaat tagatctctt ttcagaagt 2017

tctatagaac aataaaaaatc ttttacttct g

2048

<210> 308

<211> 267

<212> PRT

<213> Homo sapiens

<400> 308

Met Val Lys Ile Ser Phe Gln Pro Ala Val Ala Gly Ile Lys Gly Asp

1 5 10 15

Lys Ala Asp Lys Ala Ser Ala Ser Ala Pro Ala Pro Ala Ser Ala Thr

20 25 30

Glu Ile Leu Leu Thr Pro Ala Arg Glu Glu Gln Pro Pro Gln His Arg

35 40 45

Ser Lys Arg Gly Gly Ser Val Gly Gly Val Cys Tyr Leu Ser Met Gly

50 55 60

Met Val Val Leu Leu Met Gly Leu Val Phe Ala Ser Val Tyr Ile Tyr

65 70 75 80

Arg Tyr Phe Phe Leu Ala Gln Leu Ala Arg Asp Asn Phe Phe Arg Cys

85 90 95

Gly Val Leu Tyr Glu Asp Ser Leu Ser Ser Gln Val Arg Thr Gln Met

100 105 110

Glu Leu Glu Glu Asp Val Lys Ile Tyr Leu Asp Glu Asn Tyr Glu Arg

115

120

125

Ile Asn Val Pro Val Pro Gln Phe Gly Gly Gly Asp Pro Ala Asp Ile

130

135

140

Ile His Asp Phe Gln Arg Gly Leu Thr Ala Tyr His Asp Ile Ser Leu

145

150

155

160

Asp Lys Cys Tyr Val Ile Glu Leu Asn Thr Thr Ile Val Leu Pro Pro

165

170

175

Arg Asn Phe Trp Glu Leu Leu Met Asn Val Lys Arg Gly Thr Tyr Leu

180

185

190

Pro Gln Thr Tyr Ile Ile Gln Glu Glu Met Val Val Thr Glu His Val

195

200

205

Ser Asp Lys Glu Ala Leu Gly Ser Phe Ile Tyr His Leu Cys Asn Gly

210

215

220

Lys Asp Thr Tyr Arg Leu Arg Arg Arg Ala Thr Arg Arg Arg Ile Asn

225

230

235

240

Lys Arg Gly Ala Lys Asn Cys Asn Ala Ile Arg His Phe Glu Asn Thr

245

250

255

Phe Val Val Glu Thr Leu Ile Cys Gly Val Val

260

265

<210> 309

<211> 2682

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (45)..(1466)

<400> 309

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Met Glu Leu Gly

1

ggg cac tgg gac atg aac tcg gcc ccg agg ctg gtc tcg gag acc gca 104

Gly His Trp Asp Met Asn Ser Ala Pro Arg Leu Val Ser Glu Thr Ala

5

10

15

20

gag cgg aaa cag gag cag aag aca gga acc gag gcg gag gct gcc gac 152

Glu Arg Lys Gln Glu Gln Lys Thr Gly Thr Glu Ala Glu Ala Ala Asp

25

30

35

tcc ggt gcc gtc gga gcc cgc cgc ttc ctg ctc tgt ctc tac ttg gtg 200

Ser Gly Ala Val Gly Ala Arg Arg Phe Leu Leu Cys Leu Tyr Leu Val

40

45

50

ggc ttc ttg gat ttg ttt ggt gtc agc atg gtt gtg cct tta ttg agc 248
 Gly Phe Leu Asp Leu Phe Gly Val Ser Met Val Val Pro Leu Leu Ser
 55 60 65

ctt cat gtc aag tcc ctt gga gca agt cca aca gtt gct gga ata gta 296
 Leu His Val Lys Ser Leu Gly Ala Ser Pro Thr Val Ala Gly Ile Val
 70 75 80

ggc tcc tcc tat ggc att ttg caa ctc ttt tct agc aca ttg gtg ggc 344
 Gly Ser Ser Tyr Gly Ile Leu Gln Leu Phe Ser Ser Thr Leu Val Gly
 85 90 95 100

tgc tgg agc gat gta gtg gga aga cgg tct tcc ttg ctg gca tgc att 392
 Cys Trp Ser Asp Val Val Gly Arg Arg Ser Ser Leu Leu Ala Cys Ile
 105 110 115

cta ctc agt gct ctg ggc tat ctc ctt ctc gga gca gcc acc aat gtg 440
 Leu Leu Ser Ala Leu Gly Tyr Leu Leu Leu Gly Ala Ala Thr Asn Val
 120 125 130

ttt ctg ttt gtc ctg gct aga gtc ccg gca ggt att ttt aaa cac act 488
 Phe Leu Phe Val Leu Ala Arg Val Pro Ala Gly Ile Phe Lys His Thr
 135 140 145

ctc tcc atc tca agg gct cta ctt tct gat gtg gtt cca gag aag gaa 536
 Leu Ser Ile Ser Arg Ala Leu Leu Ser Asp Val Val Pro Glu Lys Glu
 150 155 160

~~cgg ccg ctt gta atc gga cac ttc aac aca gcc tcc ggt gtg ggc ttc 584~~

Arg Pro Leu Val Ile Gly His Phe Asn Thr Ala Ser Gly Val Gly Phe
165 170 175 180

atc ttg ggc ccc gtg gtc ggt ggc tat ccc act gaa tta gag gat ggg 632
Ile Leu Gly Pro Val Val Gly Gly Tyr Pro Thr Glu Leu Glu Asp Gly
185 190 195

ttt tat ctc aca gcc ttc atc tgc ttt ttg gtc ttc att ctc aat gct 680
Phe Tyr Leu Thr Ala Phe Ile Cys Phe Leu Val Phe Ile Leu Asn Ala
200 205 210

ggt ctc gtt tgg ttc ttt cca tgg agg gaa gca aaa ccg ggc agt aca 728
Gly Leu Val Trp Phe Phe Pro Trp Arg Glu Ala Lys Pro Gly Ser Thr
215 220 225

gag aag ggc ctg cca ttg cga aag acc cat gtg ctg ttg gga agg agc 776
Glu Lys Gly Leu Pro Leu Arg Lys Thr His Val Leu Leu Gly Arg Ser
230 235 240

cat gac aca gtg cag gag gca gcc acc agc cgc aga gcc agg gcc agc 824
His Asp Thr Val Gln Glu Ala Ala Thr Ser Arg Arg Ala Arg Ala Ser
245 250 255 260

aag aag act gcc cag ccc tgg gtc gaa gta gtg ttg gcc ttg cgg aac 872
Lys Lys Thr Ala Gln Pro Trp Val Glu Val Val Leu Ala Leu Arg Asn
265 270 275

atg agg aac ctg ctg ttt tcc gaa atg tgg gac ata ttt ctg gtg cgc 920
~~Met Arg Asn Leu Leu Phe Ser Glu Met Trp Asp Ile Phe Leu Val Arg~~

280

285

290

ttg ctg atg gcc atg gca gtc atg ctg tac tac agt aac ttt gtc ctg 968
Leu Leu Met Ala Met Ala Val Met Leu Tyr Tyr Ser Asn Phe Val Leu
295 300 305

gcc ctg gag gag cgc ttt ggg gtg cgg ccc aag gtg aca ggc tac ctc 1016
Ala Leu Glu Glu Arg Phe Gly Val Arg Pro Lys Val Thr Gly Tyr Leu
310 315 320

atc agt tac agc agc atg ctg ggg gcc gtg gcc ggc ctt gcc ctg ggg 1064
Ile Ser Tyr Ser Ser Met Leu Gly Ala Val Ala Gly Leu Ala Leu Gly
325 330 335 340

cca atc cta cgg ctg tac aag cac aac tcg cag gca ctg ctg ctg cat 1112
Pro Ile Leu Arg Leu Tyr Lys His Asn Ser Gln Ala Leu Leu Leu His
345 350 355

tcc agc ata ctc acc tgc aca ctg ctg ctg ctc tac tcc ttg gcc ccc 1160
Ser Ser Ile Leu Thr Cys Thr Leu Leu Leu Leu Tyr Ser Leu Ala Pro
360 365 370

acc atg ggt gca gtt gtc ctc tcc tcc act ctc ctg tcc ttc tcc act 1208
Thr Met Gly Ala Val Val Leu Ser Ser Thr Leu Leu Ser Phe Ser Thr
375 380 385

gcc att ggc agg acg tgc atc acg gac ctc cag ctg act gtg ggc ggg 1256
Ala Ile Gly Arg Thr Cys Ile Thr Asp Leu Gln Leu Thr Val Gly Gly
390 395 400

gcc cag gcc agc ggc acc ctt att ggc gtg ggg cag tct gtg act gca 1304

Ala Gln Ala Ser Gly Thr Leu Ile Gly Val Gly Gln Ser Val Thr Ala

405 410 415 420

gtg ggc cgc atc atc gcc cct ctc ctc tcg ggg gtt gcc cag gag gtc 1352

Val Gly Arg Ile Ile Ala Pro Leu Leu Ser Gly Val Ala Gln Glu Val

425 430 435

agc cct tgc ggc ccc ccc agc ctg ggt gct gtg tta gcc tta gtg gcc 1400

Ser Pro Cys Gly Pro Pro Ser Leu Gly Ala Val Leu Ala Leu Val Ala

440 445 450

att ttc ata atg tct cta aac aag cga cac tct agt ggt gat ggg aat 1448

Ile Phe Ile Met Ser Leu Asn Lys Arg His Ser Ser Gly Asp Gly Asn

455 460 465

agt aaa tta aaa agt gag tagatggatt tggacaacat aaagcaacaa 1496

Ser Lys Leu Lys Ser Glu

470

aatttgagat ggttgaatga gggccggagg ccatgatgaa aagggcactt tggaaagggt 1556

tggggtggaa gggaaatatt tccgggtggg tgtgagctgt tgggcttcca ggtcagctct 1616

tggccatgca gccatgcctg caggatgatc agaagtcacg gcacctcatg ggaagggttaa 1676

gactggagca aagcttttcc aaggtagca tattcagcgt ttacctggaa gtctcttctt 1736

cccacctggg ctaatcaggt tacaattttc aagggtaaac aaactaccag ctacaggata 1796

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ttccagttaa attccataca ctaggaggga gttttctatc aaaatcctgc agattgaaga 1976

agctggttta ttagaaccag cctgtcgctt ttcaaagctg gttaaaaata agatactgac 2036

ctcacccta gagatgattc agtgggcctg ggtggggcca agaatccgt ggtgttttgt 2096

aagcactgct ggcgatttct catggcagta aagaccacac tgagactgca ctgattttga 2156

ttaaagtaca taggcttggc tgtttttaca cagctaacta aatttgact cttaaaattg 2216

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ggaatgcttt aaaaatgaac agtttatgca gaataagggt caggagtcac gccagaccag 2516

aacttgatgc tactgcgtct tgtgttaaga atcatttcct ggccaggctc ggtggctcag 2576

gcctgtaatc ccagcacttt gggaggctga ggcaggtgaa tcacttggtc aggagatgga 2636

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2682

<210> 310

<211> 474

<212> PRT

<213> Homo sapiens

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Met Glu Leu Gly Gly His Trp Asp Met Asn Ser Ala Pro Arg Leu Val

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30

Glu Ala Ala Asp Ser Gly Ala Val Gly Ala Arg Arg Phe Leu Leu Cys

35

40

45

Leu Tyr Leu Val Gly Phe Leu Asp Leu Phe Gly Val Ser Met Val Val

50

55

60

Pro Leu Leu Ser Leu His Val Lys Ser Leu Gly Ala Ser Pro Thr Val

65

70

75

80

Ala Gly Ile Val Gly Ser Ser Tyr Gly Ile Leu Gln Leu Phe Ser Ser

85

90

95

Thr Leu Val Gly Cys Trp Ser Asp Val Val Gly Arg Arg Ser Ser Leu

100

105

110

Leu Ala Cys Ile Leu Leu Ser Ala Leu Gly Tyr Leu Leu Leu Gly Ala

115

120

125

Ala Thr Asn Val Phe Leu Phe Val Leu Ala Arg Val Pro Ala Gly Ile

130

135

140

Phe Lys His Thr Leu Ser Ile Ser Arg Ala Leu Leu Ser Asp Val Val

145

150

155

160

Pro Glu Lys Glu Arg Pro Leu Val Ile Gly His Phe Asn Thr Ala Ser

165

170

175

Gly Val Gly Phe Ile Leu Gly Pro Val Val Gly Gly Tyr Pro Thr Glu

180

185

190

Leu Glu Asp Gly Phe Tyr Leu Thr Ala Phe Ile Cys Phe Leu Val Phe

195

200

205

Ile Leu Asn Ala Gly Leu Val Trp Phe Phe Pro Trp Arg Glu Ala Lys

210

215

220

Pro Gly Ser Thr Glu Lys Gly Leu Pro Leu Arg Lys Thr His Val Leu

225

230

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240

Leu Gly Arg Ser His Asp Thr Val Gln Glu Ala Ala Thr Ser Arg Arg

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250

255

Ala Arg Ala Ser Lys Lys Thr Ala Gln Pro Trp Val Glu Val Val Leu
260 265 270

Ala Leu Arg Asn Met Arg Asn Leu Leu Phe Ser Glu Met Trp Asp Ile
275 280 285

Phe Leu Val Arg Leu Leu Met Ala Met Ala Val Met Leu Tyr Tyr Ser
290 295 300

Asn Phe Val Leu Ala Leu Glu Glu Arg Phe Gly Val Arg Pro Lys Val
305 310 315 320

Thr Gly Tyr Leu Ile Ser Tyr Ser Ser Met Leu Gly Ala Val Ala Gly
325 330 335

Leu Ala Leu Gly Pro Ile Leu Arg Leu Tyr Lys His Asn Ser Gln Ala
340 345 350

Leu Leu Leu His Ser Ser Ile Leu Thr Cys Thr Leu Leu Leu Tyr
355 360 365

Ser Leu Ala Pro Thr Met Gly Ala Val Val Leu Ser Ser Thr Leu Leu
370 375 380

Ser Phe Ser Thr Ala Ile Gly Arg Thr Cys Ile Thr Asp Leu Gln Leu
385 390 395 400

Thr Val Gly Gly Ala Gln Ala Ser Gly Thr Leu Ile Gly Val Gly Gln
405 410 415

Ser Val Thr Ala Val Gly Arg Ile Ile Ala Pro Leu Leu Ser Gly Val

420

425

430

Ala Gln Glu Val Ser Pro Cys Gly Pro Pro Ser Leu Gly Ala Val Leu

435

440

445

Ala Leu Val Ala Ile Phe Ile Met Ser Leu Asn Lys Arg His Ser Ser

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Gly Asp Gly Asn Ser Lys Leu Lys Ser Glu

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atg ggc gtg tgc cag cgc acg cgc gct ccc tgg aag gag aag tct cag 106

Met Gly Val Cys Gln Arg Thr Arg Ala Pro Trp Lys Glu Lys Ser Gln

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cta gaa cga gcg gcc cta ggt ttt cgg aag gga gga tca ggg atg ttt 154

Leu Glu Arg Ala Ala Leu Gly Phe Arg Lys Gly Gly Ser Gly Met Phe

20

25

30

gcg agc ggc tgg aac cag acg gtg ccg ata gag gaa gcg ggc tcc atg 202

Ala Ser Gly Trp Asn Gln Thr Val Pro Ile Glu Glu Ala Gly Ser Met

35

40

45

gct gcc ctc ctg ctg ctg ccc ctg ctg ctg ttg cta ccg ctg ctg ctg 250

Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu Pro Leu Leu Leu

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ctg aag cta cac ctc tgg ccg cag ttg cgc tgg ctt ccg gcg gac ttg 298

Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp Leu

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70

75

80

gcc ttt gcg gtg cga gct ctg tgc tgc aaa agg gct ctt cga gct cgc 346

Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala Arg

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95

gcc ctg gcc gcg gct gcc gcc gac ccg gaa ggt ccc gag ggg ggc tgc 394

Ala Leu Ala Ala Ala Ala Ala Asp Pro Glu Gly Pro Glu Gly Gly Cys

100

105

110

agc ctg gcc tgg cgc ctc gcg gaa ctg gcc cag cag cgc gcc gcg cac 442

Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala His

115

120

125

acc ttt ctc att cac ggc tcg cgg cgc ttt agc tac tca gag gcg gag 490

Thr Phe Leu Ile His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala Glu

130

135

140

cgc gag agt aac agg gct gca cgc gcc ttc cta cgt gcg cta ggc tgg 538

Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly Trp

145

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gac tgg gga ccc gac ggc ggc gac agc ggc gag ggg agc gct gga gaa 586

Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly Glu

165

170

175

ggc gag cgg gca gcg ccg gga gcc gga gat gca gcg gcc gga agc ggc 634

Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser Gly

180

185

190

gcg gag ttt gcc gga ggg gac ggt gcc gcc aga ggt gga gga gcc gcc 682

Ala Glu Phe Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala Ala

195

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gcc cct ctg tca cct gga gca act gtg gcg ctg ctc ctc ccc gct ggc 730

Ala Pro Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Leu Pro Ala Gly

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cca gag ttt ctg tgg ctc tgg ttc ggg ctg gcc aag gcc ggc ctg cgc 778

Pro Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu Arg

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act gcc ttt gtg ccc acc gcc ctg cgc cgg ggc ccc ctg ctg cac tgc 826

Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His Cys

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ctc cgc agc tgc ggc gcg cgc gcg ctg gtg ctg gcg cca gag ttt ctg 874

Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu Phe Leu

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265

270

gag tcc ctg gag ccg gac ctg ccc gcc ctg aga gcc atg ggg ctc cac 922

Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met Gly Leu His

275

280

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ctg tgg gct gca ggc cca gga acc cac cct gct gga att agc gat ttg 970

Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly Ile Ser Asp Leu

290

295

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ctg gct gaa gtg tcc gct gaa gtg gat ggg cca gtg cca gga tac ctc 1018

Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro Val Pro Gly Tyr Leu

305

310

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tct tcc ccc cag agc ata aca gac acg tgc ctg tac atc ttc acc tct 1066

Ser Ser Pro Gln Ser Ile Thr Asp Thr Cys Leu Tyr Ile Phe Thr Ser

325

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ggc acc acg ggc ctc ccc aag gct gct cgg atc agt cat ctg aag atc 1114

Gly Thr Thr Gly Leu Pro Lys Ala Ala Arg Ile Ser His Leu Lys Ile

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ctg caa tgc cag ggc ttc tat cag ctg tgt ggt gtc cac cag gaa gat 1162

Leu Gln Cys Gln Gly Phe Tyr Gln Leu Cys Gly Val His Gln Glu Asp

355

360

365

gtg atc tac ctc gcc ctc cca ctc tac cac atg tcc ggt tcc ctg ctg 1210

Val Ile Tyr Leu Ala Leu Pro Leu Tyr His Met Ser Gly Ser Leu Leu

370

375

380

ggc atc gtg ggc tgc atg ggc att ggg gcc aca gtg gtg ctg aaa tcc 1258

Gly Ile Val Gly Cys Met Gly Ile Gly Ala Thr Val Val Leu Lys Ser

385

390

395

400

aag ttc tcg gct ggt cag ttc tgg gaa gat tgc cag cag cac agg gtg 1306

Lys Phe Ser Ala Gly Gln Phe Trp Glu Asp Cys Gln Gln His Arg Val

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410

415

acg gtg ttc cag tac att ggg gag ctg tgc cga tac ctt gtc aac cag 1354

Thr Val Phe Gln Tyr Ile Gly Glu Leu Cys Arg Tyr Leu Val Asn Gln

420

425

430

ccc ccg agc aag gca gaa cgt ggc cat aag gtc cgg ctg gca gtg ggc 1402

Pro Pro Ser Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val Gly

435

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445

agc ggg ctg cgc cca gat acc tgg gag cgt ttt gtg cgg cgc ttc ggg 1450

Ser Gly Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe Gly

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455

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ccc ctg cag gtg ctg gag aca tat gga ctg aca gag ggc aac gtg gcc 1498

Pro Leu Gln Val Leu Glu Thr Tyr Gly Leu Thr Glu Gly Asn Val Ala

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470

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acc atc aac tac aca gga cag cgg ggc gct gtg ggg cgt gct tcc tgg 1546

Thr Ile Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser Trp

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ctt tac aag cat atc ttc ccc ttc tcc ttg att cgc tat gat gtc acc 1594

Leu Tyr Lys His Ile Phe Pro Phe Ser Leu Ile Arg Tyr Asp Val Thr

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510

aca gga gag cca att cgg gac ccc cag ggg cac tgt atg gcc aca tct 1642

Thr Gly Glu Pro Ile Arg Asp Pro Gln Gly His Cys Met Ala Thr Ser

515

520

525

cca ggt gag cca ggg ctg ctg gtg gcc ccg gta agc cag cag tcc cca 1690

Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser Gln Gln Ser Pro

530

535

540

ttc ctg ggc tat gct ggc ggg cca gag ctg gcc cag ggg aag ttg cta 1738

Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala Gln Gly Lys Leu Leu

545

550

555

560

aag gat gtc ttc cgg cct ggg gat gtt ttc ttc aac act ggg gac ctg 1786

Lys Asp Val Phe Arg Pro Gly Asp Val Phe Phe Asn Thr Gly Asp Leu

565

570

575

ctg gtc tgc gat gac caa ggt ttt ctc cgc ttc cat gat cgt act gga 1834

Leu Val Cys Asp Asp Gln Gly Phe Leu Arg Phe His Asp Arg Thr Gly

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gac acc ttc agg tgg aag ggg gag aat gtg gcc aca acc gag gtg gca 1882

Asp Thr Phe Arg Trp Lys Gly Glu Asn Val Ala Thr Thr Glu Val Ala

595

600

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gag gtc ttc gag gcc cta gat ttt ctt cag gag gtg aac gtc tat gga 1930

Glu Val Phe Glu Ala Leu Asp Phe Leu Gln Glu Val Asn Val Tyr Gly

610

615

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gtc act gtg cca ggg cat gaa ggc agg gct gga atg gca gcc cta gtt 1978

Val Thr Val Pro Gly His Glu Gly Arg Ala Gly Met Ala Ala Leu Val

625

630

635

640

ctg cgt ccc ccc cac gct ttg gac ctt atg cag ctc tac acc cac gtg 2026

Leu Arg Pro Pro His Ala Leu Asp Leu Met Gln Leu Tyr Thr His Val

645

650

655

tct gag aac ttg cca cct tat gcc cgg ccc cga ttc ctc agg ctc cag 2074

Ser Glu Asn Leu Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Leu Gln

660

665

670

gag tct ttg gcc acc aca gag acc ttc aaa cag cag aaa gtt cgg atg 2122

Glu Ser Leu Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg Met

675

680

685

gca aat gag ggc ttc gac ccc agc acc ctg tct gac cca ctg tac gtt 2170

Ala Asn Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr Val

690

695

700

ctg gac cag gct gta ggt gcc tac ctg ccc ctc aca act gcc cgg tac 2218

Leu Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg Tyr

705 710 715 720

agc gcc ctc ctg gca gga aac ctt cga atc tgagaacttc cacacctgag 2268

Ser Ala Leu Leu Ala Gly Asn Leu Arg Ile

725 730

gcacctgaga gaggaactct gtgggggtggg ggccgttgca ggtgtactgg gctgtcaggg 2328

atcttttcta taccagaact gcggtcacta ttttgtaata aatgtggctg gagctgatcc 2388

agctgtctct gacctac 2405

<210> 312

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<213> Homo sapiens

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Leu Glu Arg Ala Ala Leu Gly Phe Arg Lys Gly Gly Ser Gly Met Phe

20 25 30

Ala Ser Gly Trp Asn Gln Thr Val Pro Ile Glu Glu Ala Gly Ser Met

35 40 45

Ala Ala Leu Leu Leu Leu Pro Leu Leu Leu Leu Leu Pro Leu Leu Leu
50 55 60

Leu Lys Leu His Leu Trp Pro Gln Leu Arg Trp Leu Pro Ala Asp Leu
65 70 75 80

Ala Phe Ala Val Arg Ala Leu Cys Cys Lys Arg Ala Leu Arg Ala Arg
85 90 95

Ala Leu Ala Ala Ala Ala Ala Asp Pro Glu Gly Pro Glu Gly Gly Cys
100 105 110

Ser Leu Ala Trp Arg Leu Ala Glu Leu Ala Gln Gln Arg Ala Ala His
115 120 125

Thr Phe Leu Ile His Gly Ser Arg Arg Phe Ser Tyr Ser Glu Ala Glu
130 135 140

Arg Glu Ser Asn Arg Ala Ala Arg Ala Phe Leu Arg Ala Leu Gly Trp
145 150 155 160

Asp Trp Gly Pro Asp Gly Gly Asp Ser Gly Glu Gly Ser Ala Gly Glu
165 170 175

Gly Glu Arg Ala Ala Pro Gly Ala Gly Asp Ala Ala Ala Gly Ser Gly
180 185 190

Ala Glu Phe Ala Gly Gly Asp Gly Ala Ala Arg Gly Gly Gly Ala Ala
195 200 205

Ala Pro Leu Ser Pro Gly Ala Thr Val Ala Leu Leu Leu Pro Ala Gly
210 215 220

Pro Glu Phe Leu Trp Leu Trp Phe Gly Leu Ala Lys Ala Gly Leu Arg
225 230 235 240

Thr Ala Phe Val Pro Thr Ala Leu Arg Arg Gly Pro Leu Leu His Cys
245 250 255

Leu Arg Ser Cys Gly Ala Arg Ala Leu Val Leu Ala Pro Glu Phe Leu
260 265 270

Glu Ser Leu Glu Pro Asp Leu Pro Ala Leu Arg Ala Met Gly Leu His
275 280 285

Leu Trp Ala Ala Gly Pro Gly Thr His Pro Ala Gly Ile Ser Asp Leu
290 295 300

Leu Ala Glu Val Ser Ala Glu Val Asp Gly Pro Val Pro Gly Tyr Leu
305 310 315 320

Ser Ser Pro Gln Ser Ile Thr Asp Thr Cys Leu Tyr Ile Phe Thr Ser
325 330 335

Gly Thr Thr Gly Leu Pro Lys Ala Ala Arg Ile Ser His Leu Lys Ile
340 345 350

Leu Gln Cys Gln Gly Phe Tyr Gln Leu Cys Gly Val His Gln Glu Asp

355

360

365

Val Ile Tyr Leu Ala Leu Pro Leu Tyr His Met Ser Gly Ser Leu Leu

370

375

380

Gly Ile Val Gly Cys Met Gly Ile Gly Ala Thr Val Val Leu Lys Ser

385

390

395

400

Lys Phe Ser Ala Gly Gln Phe Trp Glu Asp Cys Gln Gln His Arg Val

405

410

415

Thr Val Phe Gln Tyr Ile Gly Glu Leu Cys Arg Tyr Leu Val Asn Gln

420

425

430

Pro Pro Ser Lys Ala Glu Arg Gly His Lys Val Arg Leu Ala Val Gly

435

440

445

Ser Gly Leu Arg Pro Asp Thr Trp Glu Arg Phe Val Arg Arg Phe Gly

450

455

460

Pro Leu Gln Val Leu Glu Thr Tyr Gly Leu Thr Glu Gly Asn Val Ala

465

470

475

480

Thr Ile Asn Tyr Thr Gly Gln Arg Gly Ala Val Gly Arg Ala Ser Trp

485

490

495

Leu Tyr Lys His Ile Phe Pro Phe Ser Leu Ile Arg Tyr Asp Val Thr

500

505

510

Thr Gly Glu Pro Ile Arg Asp Pro Gln Gly His Cys Met Ala Thr Ser
515 520 525

Pro Gly Glu Pro Gly Leu Leu Val Ala Pro Val Ser Gln Gln Ser Pro
530 535 540

Phe Leu Gly Tyr Ala Gly Gly Pro Glu Leu Ala Gln Gly Lys Leu Leu
545 550 555 560

Lys Asp Val Phe Arg Pro Gly Asp Val Phe Phe Asn Thr Gly Asp Leu
565 570 575

Leu Val Cys Asp Asp Gln Gly Phe Leu Arg Phe His Asp Arg Thr Gly
580 585 590

Asp Thr Phe Arg Trp Lys Gly Glu Asn Val Ala Thr Thr Glu Val Ala
595 600 605

Glu Val Phe Glu Ala Leu Asp Phe Leu Gln Glu Val Asn Val Tyr Gly
610 615 620

Val Thr Val Pro Gly His Glu Gly Arg Ala Gly Met Ala Ala Leu Val
625 630 635 640

Leu Arg Pro Pro His Ala Leu Asp Leu Met Gln Leu Tyr Thr His Val
645 650 655

Ser Glu Asn Leu Pro Pro Tyr Ala Arg Pro Arg Phe Leu Arg Leu Gln
660 665 670

Glu Ser Leu Ala Thr Thr Glu Thr Phe Lys Gln Gln Lys Val Arg Met

675

680

685

Ala Asn Glu Gly Phe Asp Pro Ser Thr Leu Ser Asp Pro Leu Tyr Val

690

695

700

Leu Asp Gln Ala Val Gly Ala Tyr Leu Pro Leu Thr Thr Ala Arg Tyr

705

710

715

720

Ser Ala Leu Leu Ala Gly Asn Leu Arg Ile

725

730

<210> 313

<211> 2568

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (382)..(1680)

<400> 313

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tggcacctgg ccacctttcc ctctaccaag actccacttc cgtcttaccc acttcttct 240

cagattcttg gtacccctg ggttgagac tgctcatttt cctcccaaataaataccaga 300

ccccctaaaa tattgacaac cttgacaacc cccaaccga ggagccagac tttgttttg 360

actaacttcc atagccctgt c atg gag gca gtg tac ctg gta gtg aat ggg 411

Met Glu Ala Val Tyr Leu Val Val Asn Gly

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ttg ggc ctg gtg ctg gac gtg ctg acc ttg gtg ttg gac ctc aac ttc 459

Leu Gly Leu Val Leu Asp Val Leu Thr Leu Val Leu Asp Leu Asn Phe

15 20 25

ctg ctg gtg tcc tcc ctc ctg gct tcc ctg gcc tgg ctc ctg gcc ttc 507

Leu Leu Val Ser Ser Leu Leu Ala Ser Leu Ala Trp Leu Leu Ala Phe

30 35 40

gtc tac aac ctg ccg cac acg gta ctg act agt ctt ctg cac ttg ggc 555

Val Tyr Asn Leu Pro His Thr Val Leu Thr Ser Leu Leu His Leu Gly

45 50 55

cgc gga gtc ttg ctt tca ttg ctg gcc ttg atc gaa gcc gtg gtc cgg 603

Arg Gly Val Leu Leu Ser Leu Leu Ala Leu Ile Glu Ala Val Val Arg

60 65 70

ttc aca tgt ggg ggc ttg cag gcc ttg tgt act ctg ctg tat agc tgc 651

Phe Thr Cys Gly Gly Leu Gln Ala Leu Cys Thr Leu Leu Tyr Ser Cys

75

80

85

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tgc tct ggc cta gag agc cta aag ctc ctg ggg cac ctg gcc tct cat 699

Cys Ser Gly Leu Glu Ser Leu Lys Leu Leu Gly His Leu Ala Ser His

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ggg gca ctg cgg agc agg gag ata ctg cac cgg ggc gtc ctc aat gtg 747

Gly Ala Leu Arg Ser Arg Glu Ile Leu His Arg Gly Val Leu Asn Val

110

115

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gtc tcc agt ggc cat gct ttg ctg cgc cag gcc tgt gac atc tgt gcc 795

Val Ser Ser Gly His Ala Leu Leu Arg Gln Ala Cys Asp Ile Cys Ala

125

130

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att gcc atg agc ctg gtg gct tat gtg atc aac agc ctg gtc aac atc 843

Ile Ala Met Ser Leu Val Ala Tyr Val Ile Asn Ser Leu Val Asn Ile

140

145

150

tgc ctc atc ggc act cag aac ctc ttt tcc ctg gtg ctg gcc ctg tgg 891

Cys Leu Ile Gly Thr Gln Asn Leu Phe Ser Leu Val Leu Ala Leu Trp

155

160

165

170

gat gca gtg acc ggg cct ctg tgg agg atg aca gac gta gtg gct gcc 939

Asp Ala Val Thr Gly Pro Leu Trp Arg Met Thr Asp Val Val Ala Ala

175

180

185

ttc cta gcc cac att tcc agc agt gct gtg gcc atg gcc atc ctc ctt 987

Phe Leu Ala His Ile Ser Ser Ser Ala Val Ala Met Ala Ile Leu Leu

190

195

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tgg aca ccc tgc caa cta gcc ctg gag ctg ctg gcc tca gct gcc cgc 1035

Trp Thr Pro Cys Gln Leu Ala Leu Glu Leu Leu Ala Ser Ala Ala Arg

205

210

215

ctc ctg gcc agc ttt gtg ctt gtc aat ctc act ggc ttg gtg ttg cta 1083

Leu Leu Ala Ser Phe Val Leu Val Asn Leu Thr Gly Leu Val Leu Leu

220

225

230

gct tgt gtg ctg gca gtg acg gtg act gtg ttg cat ccg gac ttc acc 1131

Ala Cys Val Leu Ala Val Thr Val Thr Val Leu His Pro Asp Phe Thr

235

240

245

250

ctg agg ctg gct acc cag gca ctc agc cag ctc cat gcc cgg cca tcc 1179

Leu Arg Leu Ala Thr Gln Ala Leu Ser Gln Leu His Ala Arg Pro Ser

255

260

265

tac cac cgt ctt cga gag gat gtc atg cgg ctc tct cgc cta gca ctg 1227

Tyr His Arg Leu Arg Glu Asp Val Met Arg Leu Ser Arg Leu Ala Leu

270

275

280

ggc tca gag gcc tgg cgc cga gtc tgg agc cgc agt ctg cag ctg gcg 1275

Gly Ser Glu Ala Trp Arg Arg Val Trp Ser Arg Ser Leu Gln Leu Ala

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290

295

agt tgg cca aac cgg gga ggg gca cct gga gct ccc cag ggt gac cct 1323

Ser Trp Pro Asn Arg Gly Gly Ala Pro Gly Ala Pro Gln Gly Asp Pro

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305

310

atg agg gta ttc tca gtt agg acc cgg aga cag gac act ctt cct gaa 1371

Met Arg Val Phe Ser Val Arg Thr Arg Arg Gln Asp Thr Leu Pro Glu

315 320 325 330

gcg ggg cgc aga tca gag gca gaa gag gag gag gcc agg acc atc aga 1419

Ala Gly Arg Arg Ser Glu Ala Glu Glu Glu Glu Ala Arg Thr Ile Arg

335 340 345

gtg aca cct gtc agg ggc cga gag agg ctc aat gag gag gag cct cca 1467

Val Thr Pro Val Arg Gly Arg Glu Arg Leu Asn Glu Glu Glu Pro Pro

350 355 360

ggt ggg caa gac cct tgg aaa ttg ctg aag gag caa gag gag cgg aag 1515

Gly Gly Gln Asp Pro Trp Lys Leu Leu Lys Glu Gln Glu Glu Arg Lys

365 370 375

aag tgt gtc atc tgc cag gac cag agc aag aca gtg ttg ctc ctg ccc 1563

Lys Cys Val Ile Cys Gln Asp Gln Ser Lys Thr Val Leu Leu Leu Pro

380 385 390

tgc cgg cat ctg tgc ctg tgc cag gcc tgc act gaa atc ctg atg cgc 1611

Cys Arg His Leu Cys Leu Cys Gln Ala Cys Thr Glu Ile Leu Met Arg

395 400 405 410

cac ccc gtc tac cac cgc aat tgc ccg ctc tgc cgc cgg ggc atc ctg 1659

His Pro Val Tyr His Arg Asn Cys Pro Leu Cys Arg Arg Gly Ile Leu

415 420 425

cag acc ctc aat gtc tac ctc tgaagcctcc ttccctgcct gccaccct 1710

Gln Thr Leu Asn Val Tyr Leu

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ccatgctcca cgcaggcact cacgctagga cagcattaac acctcatctc cgggtcctgg 1770

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tcctccagcc tgcccagggc ccaccagat gcctctgggg ttaccctgt ctgcttctgg 2010

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<210> 314

<211> 433

<212> PRT

<213> Homo sapiens

<400> 314

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Val Leu Thr Leu Val Leu Asp Leu Asn Phe Leu Leu Val Ser Ser Leu

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Leu Ala Ser Leu Ala Trp Leu Leu Ala Phe Val Tyr Asn Leu Pro His

35 40 45

Thr Val Leu Thr Ser Leu Leu His Leu Gly Arg Gly Val Leu Leu Ser

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Leu Leu Ala Leu Ile Glu Ala Val Val Arg Phe Thr Cys Gly Gly Leu

65 70 75 80

Gln Ala Leu Cys Thr Leu Leu Tyr Ser Cys Cys Ser Gly Leu Glu Ser

85 90 95

Leu Lys Leu Leu Gly His Leu Ala Ser His Gly Ala Leu Arg Ser Arg
100 105 110

Glu Ile Leu His Arg Gly Val Leu Asn Val Val Ser Ser Gly His Ala
115 120 125

Leu Leu Arg Gln Ala Cys Asp Ile Cys Ala Ile Ala Met Ser Leu Val
130 135 140

Ala Tyr Val Ile Asn Ser Leu Val Asn Ile Cys Leu Ile Gly Thr Gln
145 150 155 160

Asn Leu Phe Ser Leu Val Leu Ala Leu Trp Asp Ala Val Thr Gly Pro
165 170 175

Leu Trp Arg Met Thr Asp Val Val Ala Ala Phe Leu Ala His Ile Ser
180 185 190

Ser Ser Ala Val Ala Met Ala Ile Leu Leu Trp Thr Pro Cys Gln Leu
195 200 205

Ala Leu Glu Leu Leu Ala Ser Ala Ala Arg Leu Leu Ala Ser Phe Val
210 215 220

Leu Val Asn Leu Thr Gly Leu Val Leu Leu Ala Cys Val Leu Ala Val
225 230 235 240

Thr Val Thr Val Leu His Pro Asp Phe Thr Leu Arg Leu Ala Thr Gln
245 250 255

Ala Leu Ser Gln Leu His Ala Arg Pro Ser Tyr His Arg Leu Arg Glu

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Asp Val Met Arg Leu Ser Arg Leu Ala Leu Gly Ser Glu Ala Trp Arg

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280

285

Arg Val Trp Ser Arg Ser Leu Gln Leu Ala Ser Trp Pro Asn Arg Gly

290

295

300

Gly Ala Pro Gly Ala Pro Gln Gly Asp Pro Met Arg Val Phe Ser Val

305

310

315

320

Arg Thr Arg Arg Gln Asp Thr Leu Pro Glu Ala Gly Arg Arg Ser Glu

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Ala Glu Glu Glu Glu Ala Arg Thr Ile Arg Val Thr Pro Val Arg Gly

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Arg Glu Arg Leu Asn Glu Glu Glu Pro Pro Gly Gly Gln Asp Pro Trp

355

360

365

Lys Leu Leu Lys Glu Gln Glu Glu Arg Lys Lys Cys Val Ile Cys Gln

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375

380

Asp Gln Ser Lys Thr Val Leu Leu Leu Pro Cys Arg His Leu Cys Leu

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Cys Gln Ala Cys Thr Glu Ile Leu Met Arg His Pro Val Tyr His Arg

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Lys Leu Leu Leu Ala Leu Val Met Leu Phe Leu Phe Ala Val Ile Val

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ctc caa tac gtg tgc ccc ggc aca gaa tgc cag ctc ctc cgc ctg cag 147

Leu Gln Tyr Val Cys Pro Gly Thr Glu Cys Gln Leu Leu Arg Leu Gln

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gcg ttc agc tcc ccg gtg ccg gac ccg tac cgc tcg gag gat gag agc 195

Ala Phe Ser Ser Pro Val Pro Asp Pro Tyr Arg Ser Glu Asp Glu Ser

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tcc gcc agg ttc gtg ccc cgc tac aat ttc acc cgc ggc gac ctc ctg 243

Ser Ala Arg Phe Val Pro Arg Tyr Asn Phe Thr Arg Gly Asp Leu Leu

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cgc aag gta gac ttc gac atc aag ggc gat gac ctg atc gtg ttc ctg 291

Arg Lys Val Asp Phe Asp Ile Lys Gly Asp Asp Leu Ile Val Phe Leu

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cac atc cag aag acc ggg ggc acc act ttc ggc cgc cac ttg gtg cgt 339

His Ile Gln Lys Thr Gly Gly Thr Thr Phe Gly Arg His Leu Val Arg

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aac atc cag ctg gag cag ccg tgc gag tgc cgc gtg ggt cag aag aaa 387

Asn Ile Gln Leu Glu Gln Pro Cys Glu Cys Arg Val Gly Gln Lys Lys

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tgc act tgc cac cgg ccg ggt aag cgg gaa acc tgg ctc ttc tcc agg 435

Cys Thr Cys His Arg Pro Gly Lys Arg Glu Thr Trp Leu Phe Ser Arg

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Phe Ser Thr Gly Trp Ser Cys Gly Leu His Ala Asp Trp Thr Glu Leu

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Thr Ser Cys Val Pro Ser Val Val Asp Gly Lys Arg Asp Ala Arg Leu

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aga ccg tcc agg aac ttc cac tac atc acc atc ctc cga gac cca gtg 579

Arg Pro Ser Arg Asn Phe His Tyr Ile Thr Ile Leu Arg Asp Pro Val

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tcc cgg tac ttg agt gag tgg agg cat gtc cag aga ggg gca aca tgg 627

Ser Arg Tyr Leu Ser Glu Trp Arg His Val Gln Arg Gly Ala Thr Trp

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aaa gca tcc ctg cat gtc tgc gat gga agg cct cca acc tcc gaa gag 675

Lys Ala Ser Leu His Val Cys Asp Gly Arg Pro Pro Thr Ser Glu Glu

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ctg ccc agc tgc tac act ggc gat gac tgg tct ggc tgc ccc ctc aaa 723

Leu Pro Ser Cys Tyr Thr Gly Asp Asp Trp Ser Gly Cys Pro Leu Lys

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gag ttt atg gac tgt ccc tac aat cta gcc aac aac cgc cag gtg cgc 771

Glu Phe Met Asp Cys Pro Tyr Asn Leu Ala Asn Asn Arg Gln Val Arg

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atg ctc tcc gac ctg acc ctg gta ggc tgc tac aac ctc tct gtc atg 819

Met Leu Ser Asp Leu Thr Leu Val Gly Cys Tyr Asn Leu Ser Val Met

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cct gaa aag caa aga aac aag gtc ctt ctg gaa agt gcc aag tca aat 867

Pro Glu Lys Gln Arg Asn Lys Val Leu Leu Glu Ser Ala Lys Ser Asn

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caa tat ctg ttt gag aaa acc ttc aac atg aac ttt att tcg cca ttt 963

Gln Tyr Leu Phe Glu Lys Thr Phe Asn Met Asn Phe Ile Ser Pro Phe

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acc cag tat aat acc act agg gcc tct agt gta gag atc aat gag gaa 1011

Thr Gln Tyr Asn Thr Thr Arg Ala Ser Ser Val Glu Ile Asn Glu Glu

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att caa aag cgt att gag gga ctg aat ttt ctg gat atg gag ttg tac 1059

Ile Gln Lys Arg Ile Glu Gly Leu Asn Phe Leu Asp Met Glu Leu Tyr

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agc tat gcc aaa gac ctt ttt ttg cag agg tat cag ttt atg agg cag 1107

Ser Tyr Ala Lys Asp Leu Phe Leu Gln Arg Tyr Gln Phe Met Arg Gln

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aaa gag cat cag gag gcc agg cga aag cgt cag gaa caa cgc aaa ttt 1155

Lys Glu His Gln Glu Ala Arg Arg Lys Arg Gln Glu Gln Arg Lys Phe

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370

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ctg aag gga agg ctc ctt cag acc cat ttc cag agc cag ggt cag ggc 1203

Leu Lys Gly Arg Leu Leu Gln Thr His Phe Gln Ser Gln Gly Gln Gly

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cag agc cag aat ccg aat cag aat cag agt cag aac cca aat ccg aat 1251

Gln Ser Gln Asn Pro Asn Gln Asn Gln Ser Gln Asn Pro Asn Pro Asn

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gcc aat cag aac ctg act cag aat ctg atg cag aat ctg act cag agt 1299

Ala Asn Gln Asn Leu Thr Gln Asn Leu Met Gln Asn Leu Thr Gln Ser

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ttg agc cag aag gag aac cgg gaa agc ccg aag cgg aac tca ggc aag 1347

Leu Ser Gln Lys Glu Asn Arg Glu Ser Pro Lys Arg Asn Ser Gly Lys

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ggg cag aat gat aac acc agc aat ggc act aac gac tac ata ggc agt 1395

Gly Gln Asn Asp Asn Thr Ser Asn Gly Thr Asn Asp Tyr Ile Gly Ser

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455

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gta gag aaa tgg cgt taaatggctc aaaaaggcct gtacatactt ctcccaaagc 1450

Val Glu Lys Trp Arg

465

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Cys Pro Gly Thr Glu Cys Gln Leu Leu Arg Leu Gln Ala Phe Ser Ser

35 40 45

Pro Val Pro Asp Pro Tyr Arg Ser Glu Asp Glu Ser Ser Ala Arg Phe

50 55 60

Val Pro Arg Tyr Asn Phe Thr Arg Gly Asp Leu Leu Arg Lys Val Asp
65 70 75 80

Phe Asp Ile Lys Gly Asp Asp Leu Ile Val Phe Leu His Ile Gln Lys
85 90 95

Thr Gly Gly Thr Thr Phe Gly Arg His Leu Val Arg Asn Ile Gln Leu
100 105 110

Glu Gln Pro Cys Glu Cys Arg Val Gly Gln Lys Lys Cys Thr Cys His
115 120 125

Arg Pro Gly Lys Arg Glu Thr Trp Leu Phe Ser Arg Phe Ser Thr Gly
130 135 140

Trp Ser Cys Gly Leu His Ala Asp Trp Thr Glu Leu Thr Ser Cys Val
145 150 155 160

Pro Ser Val Val Asp Gly Lys Arg Asp Ala Arg Leu Arg Pro Ser Arg
165 170 175

Asn Phe His Tyr Ile Thr Ile Leu Arg Asp Pro Val Ser Arg Tyr Leu
180 185 190

Ser Glu Trp Arg His Val Gln Arg Gly Ala Thr Trp Lys Ala Ser Leu
195 200 205

His Val Cys Asp Gly Arg Pro Pro Thr Ser Glu Glu Leu Pro Ser Cys
210 215 220

Tyr Thr Gly Asp Asp Trp Ser Gly Cys Pro Leu Lys Glu Phe Met Asp
225 230 235 240

Cys Pro Tyr Asn Leu Ala Asn Asn Arg Gln Val Arg Met Leu Ser Asp
245 250 255

Leu Thr Leu Val Gly Cys Tyr Asn Leu Ser Val Met Pro Glu Lys Gln
260 265 270

Arg Asn Lys Val Leu Leu Glu Ser Ala Lys Ser Asn Leu Arg His Met
275 280 285

Ala Phe Phe Gly Leu Thr Glu Phe Gln Arg Lys Thr Gln Tyr Leu Phe
290 295 300

Glu Lys Thr Phe Asn Met Asn Phe Ile Ser Pro Phe Thr Gln Tyr Asn
305 310 315 320

Thr Thr Arg Ala Ser Ser Val Glu Ile Asn Glu Glu Ile Gln Lys Arg
325 330 335

Ile Glu Gly Leu Asn Phe Leu Asp Met Glu Leu Tyr Ser Tyr Ala Lys
340 345 350

Asp Leu Phe Leu Gln Arg Tyr Gln Phe Met Arg Gln Lys Glu His Gln
355 360 365

Glu Ala Arg Arg Lys Arg Gln Glu Gln Arg Lys Phe Leu Lys Gly Arg

370

375

380

Leu Leu Gln Thr His Phe Gln Ser Gln Gly Gln Gly Gln Ser Gln Asn

385

390

395

400

Pro Asn Gln Asn Gln Ser Gln Asn Pro Asn Pro Asn Ala Asn Gln Asn

405

410

415

Leu Thr Gln Asn Leu Met Gln Asn Leu Thr Gln Ser Leu Ser Gln Lys

420

425

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Glu Asn Arg Glu Ser Pro Lys Arg Asn Ser Gly Lys Gly Gln Asn Asp

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ccctcgctcg cgtagcc atg gcg gag ccg tcg gcg gcc act cag tcc cat 170

Met Ala Glu Pro Ser Ala Ala Thr Gln Ser His

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tcc atc tcc tcg tcg tcc ttc gga gcc gag ccg tcc gcg ccc ggc ggc 218

Ser Ile Ser Ser Ser Ser Phe Gly Ala Glu Pro Ser Ala Pro Gly Gly

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ggc ggg agc cca gga gcc tgc ccc gcc ctg ggg acg aag agc tgc agc 266

Gly Gly Ser Pro Gly Ala Cys Pro Ala Leu Gly Thr Lys Ser Cys Ser

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tcc tcc tgt gcg gtg cac gat ctg att ttc tgg aga gat gtg aag aag 314

Ser Ser Cys Ala Val His Asp Leu Ile Phe Trp Arg Asp Val Lys Lys

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act ggg ttt gtc ttt ggc acc acg ctg atc atg ctg ctt tcc ctg gca 362

Thr Gly Phe Val Phe Gly Thr Thr Leu Ile Met Leu Leu Ser Leu Ala

60

65

70

75

gct ttc agt gtc atc agt gtg gtt tct tac ctc atc ctg gct ctt ctc 410

Ala Phe Ser Val Ile Ser Val Val Ser Tyr Leu Ile Leu Ala Leu Leu

80

85

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tct gtc acc atc agc ttc agg atc tac aag tcc gtc atc caa gct gta 458

Ser Val Thr Ile Ser Phe Arg Ile Tyr Lys Ser Val Ile Gln Ala Val

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cag aag tca gaa gaa ggc cat cca ttc aaa gcc tac ctg gac gta gac 506

Gln Lys Ser Glu Glu Gly His Pro Phe Lys Ala Tyr Leu Asp Val Asp

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Ile Thr Leu Ser Ser Glu Ala Phe His Asn Tyr Met Asn Ala Ala Met

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130

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gtg cac atc aac agg gcc ctg aaa ctc att att cgt ctc ttt ctg gta 602

Val His Ile Asn Arg Ala Leu Lys Leu Ile Ile Arg Leu Phe Leu Val

140

145

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gaa gat ctg gtt gac tcc ttg aag ctg gct gtc ttc atg tgg ctg atg 650

Glu Asp Leu Val Asp Ser Leu Lys Leu Ala Val Phe Met Trp Leu Met

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acc tat gtt ggt gct gtt ttt aac gga atc acc ctt cta att ctt gct 698

Thr Tyr Val Gly Ala Val Phe Asn Gly Ile Thr Leu Leu Ile Leu Ala

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gaa ctg ctc att ttc agt gtc ccg att gtc tat gag aag tac aag acc 746

Glu Leu Leu Ile Phe Ser Val Pro Ile Val Tyr Glu Lys Tyr Lys Thr

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cag att gat cac tat gtt ggc atc gcc cga gat cag acc aag tca att 794
 Gln Ile Asp His Tyr Val Gly Ile Ala Arg Asp Gln Thr Lys Ser Ile
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gtt gaa aag atc caa gca aaa ctc cct gga atc gcc aaa aaa aag gca 842
 Val Glu Lys Ile Gln Ala Lys Leu Pro Gly Ile Ala Lys Lys Lys Ala
 220 225 230 235

gaa taagtacatg gaaaccagaa atgcaacagt tactaaaaca ccatttaata 895
 Glu

gttataacgt cgttacttgt actatgaagg aaaatactca gtgtcagctt gagcctgcat 955

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<400> 318

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Ser Phe Gly Ala Glu Pro Ser Ala Pro Gly Gly Gly Gly Ser Pro Gly

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Ala Cys Pro Ala Leu Gly Thr Lys Ser Cys Ser Ser Ser Cys Ala Val

35 40 45

His Asp Leu Ile Phe Trp Arg Asp Val Lys Lys Thr Gly Phe Val Phe

50 55 60

Gly Thr Thr Leu Ile Met Leu Leu Ser Leu Ala Ala Phe Ser Val Ile

65	70	75	80
Ser Val Val Ser Tyr Leu Ile Leu Ala Leu Leu Ser Val Thr Ile Ser			
	85	90	95
Phe Arg Ile Tyr Lys Ser Val Ile Gln Ala Val Gln Lys Ser Glu Glu			
100	105	110	
Gly His Pro Phe Lys Ala Tyr Leu Asp Val Asp Ile Thr Leu Ser Ser			
115	120	125	
Glu Ala Phe His Asn Tyr Met Asn Ala Ala Met Val His Ile Asn Arg			
130	135	140	
Ala Leu Lys Leu Ile Ile Arg Leu Phe Leu Val Glu Asp Leu Val Asp			
145	150	155	160
Ser Leu Lys Leu Ala Val Phe Met Trp Leu Met Thr Tyr Val Gly Ala			
165	170	175	
Val Phe Asn Gly Ile Thr Leu Leu Ile Leu Ala Glu Leu Leu Ile Phe			
180	185	190	
Ser Val Pro Ile Val Tyr Glu Lys Tyr Lys Thr Gln Ile Asp His Tyr			
195	200	205	
Val Gly Ile Ala Arg Asp Gln Thr Lys Ser Ile Val Glu Lys Ile Gln			
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Ala Lys Leu Pro Gly Ile Ala Lys Lys Lys Ala Glu

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Leu Gly Ser His Pro Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val

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25

tgg ctt ctg ctt agc acc tgg tgc aca gct cct gcc agg gcc atc cag 148

Trp Leu Leu Leu Ser Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln

30

35

40

gtg acc gtg tcc aac ccc tac cac gtg gtg atc ctc ttc cag cct gtg 196

Val Thr Val Ser Asn Pro Tyr His Val Val Ile Leu Phe Gln Pro Val

45

50

55

acc ctg ccc tgt acc tac cag atg acc tcg acc ccc acg caa ccc atc 244

Thr Leu Pro Cys Thr Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile

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gtc atc tgg aag tac aag tct ttc tgc cgg gac cgc atc gcc gat gcc 292

Val Ile Trp Lys Tyr Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala

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ttc tcc ccg gcc agc gtc gac aac cag ctc aat gcc cag ctg gca gcc 340

Phe Ser Pro Ala Ser Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala

95

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Gly Asn Pro Gly Tyr Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg

110

115

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acc gtc agg gtc gtg gcc acc aag cag ggc aac gct gtg acc ctg gga 436

Thr Val Arg Val Val Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly

125

130

135

gat tac tac cag ggc cgg agg att acc atc acc gga aat gct gac ctg 484

Asp Tyr Tyr Gln Gly Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu

140

145

150

155

acc ttt gac cag acg gcg tgg ggg gac agt ggt gtg tat tac tgc tcc 532

Thr Phe Asp Gln Thr Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser

160

165

170

gtg gtc tca gcc cag gac ctc cag ggg aac aat gag gcc tac gca gag 580
Val Val Ser Ala Gln Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu
175 180 185

ctc atc gtc ctt gac tgg ctc ttc gtg gtt gtg gta tgc ctg gct gcc 628
Leu Ile Val Leu Asp Trp Leu Phe Val Val Val Val Cys Leu Ala Ala
190 195 200

ttc ctc atc ttc ctc ctc ctg ggc atc tgc tgg tgc cag tgc tgc ccg 676
Phe Leu Ile Phe Leu Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro
205 210 215

cac act tgc tgc tgc tac gtc agg tgc ccc tgc tgc cca gac aag tgc 724
His Thr Cys Cys Cys Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys
220 225 230 235

tgc tgc ccc gag gcc ctg tat gcc gcc ggc aaa gca gcc acc tca ggt 772
Cys Cys Pro Glu Ala Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly
240 245 250

gtt ccc agc att tat gcc ccc agc acc tat gcc cac ctg tct ccc gcc 820
Val Pro Ser Ile Tyr Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala
255 260 265

aag acc cca ccc cca cca gct atg att ccc atg ggc cct gcc tac aac 868
Lys Thr Pro Pro Pro Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn
270 275 280

ggg tac cct gga gga tac cct gga gac gtt gac agg aat agc tcg gct 916

Gly Tyr Pro Gly Gly Tyr Pro Gly Asp Val Asp Arg Asn Ser Ser Ala
285 290 295

ggt ggc caa ggc tcc tat gta ccc ctg ctt cgg gac acg gac agc agt 964
Gly Gly Gln Gly Ser Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser
300 305 310 315

gtg gcc tct gaa gtc cgc agt ggc tac agg att cag gcc agc cag cag 1012
Val Ala Ser Glu Val Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln
320 325 330

gac gac tcc atg cgg gtc ctg tac tac atg gag aag gag ctg gcc aac 1060
Asp Asp Ser Met Arg Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn
335 340 345

ttc gac cct tct cga cct ggc ccc ccc agt ggc cgt gtg gag cgg gcc 1108
Phe Asp Pro Ser Arg Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala
350 355 360

atg agt gaa gtc acc tcc ctc cac gag gac gac tgg cga tct cgg cct 1156
Met Ser Glu Val Thr Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro
365 370 375

tcc cgg ggc cct gcc ctc acc ccg atc cgg gat gag gag tgg ggt ggc 1204
Ser Arg Gly Pro Ala Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly
380 385 390 395

cac tcc ccc cgg agt ccc agg gga tgg gac cag gag ccc gcc agg gag 1252
His Ser Pro Arg Ser Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu

400

405

410

cag gca ggc ggg ggc tgg cgg gcc agg cgg ccc cgg gcc cgc tcc gtg 1300

Gln Ala Gly Gly Gly Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val

415

420

425

gac gcc ctg gac gac ctc acc ccg ccg agc acc gcc gag tca ggg agc 1348

Asp Ala Leu Asp Asp Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser

430

435

440

agg tct ccc acg agt aat ggt ggg agg aga agc cgg gcc tac atg ccc 1396

Arg Ser Pro Thr Ser Asn Gly Gly Arg Arg Ser Arg Ala Tyr Met Pro

445

450

455

ccg cgg agc cgc agc cgg gac gac ctc tat gac caa gac gac tcg agg 1444

Pro Arg Ser Arg Ser Arg Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg

460

465

470

475

gac ttc cca cgc tcc cgg gac ccc cac tac gac gac ttc agg tct cgg 1492

Asp Phe Pro Arg Ser Arg Asp Pro His Tyr Asp Asp Phe Arg Ser Arg

480

485

490

gag cgc cct cct gcc gac ccc agg tcc cac cac cac cgt acc cgg gac 1540

Glu Arg Pro Pro Ala Asp Pro Arg Ser His His His Arg Thr Arg Asp

495

500

505

cct cgg gac aac ggc tcc agg tcc ggg gac ctc ccc tat gat ggg cgg 1588

Pro Arg Asp Asn Gly Ser Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg

510

515

520

cta ctg gag gag gct gtg agg aag aag ggg tcg gag gag agg agg aga 1636

Leu Leu Glu Glu Ala Val Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg

525

530

535

ccc cac aag gag gag gag gaa gag gcc tac tac ccg ccc gcg ccg ccc 1684

Pro His Lys Glu Glu Glu Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro

540

545

550

555

ccg tac tcg gag acc gac tcg cag gcg tcc cga gag cgc agg ctc aag 1732

Pro Tyr Ser Glu Thr Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys

560

565

570

aag aac ttg gcc ctg agt cgg gaa agt tta gtc gtc tgatctgacg 1778

Lys Asn Leu Ala Leu Ser Arg Glu Ser Leu Val Val

575

580

ttttctacgt agcttttgta tttttttttt aatttgaagg aacactgatg aagccctgcc 1838

ataccctcc cgagtctaataaaaacgtata atcac 1873

<210> 320

<211> 583

<212> PRT

<213> Homo sapiens

<400> 320

Met Ala Leu Leu Ala Gly Gly Leu Ser Arg Gly Leu Gly Ser His Pro

1

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15

Ala Ala Ala Gly Arg Asp Ala Val Val Phe Val Trp Leu Leu Leu Ser

20

25

30

Thr Trp Cys Thr Ala Pro Ala Arg Ala Ile Gln Val Thr Val Ser Asn

35

40

45

Pro Tyr His Val Val Ile Leu Phe Gln Pro Val Thr Leu Pro Cys Thr

50

55

60

Tyr Gln Met Thr Ser Thr Pro Thr Gln Pro Ile Val Ile Trp Lys Tyr

65

70

75

80

Lys Ser Phe Cys Arg Asp Arg Ile Ala Asp Ala Phe Ser Pro Ala Ser

85

90

95

Val Asp Asn Gln Leu Asn Ala Gln Leu Ala Ala Gly Asn Pro Gly Tyr

100

105

110

Asn Pro Tyr Val Glu Cys Gln Asp Ser Val Arg Thr Val Arg Val Val

115

120

125

Ala Thr Lys Gln Gly Asn Ala Val Thr Leu Gly Asp Tyr Tyr Gln Gly

130

135

140

Arg Arg Ile Thr Ile Thr Gly Asn Ala Asp Leu Thr Phe Asp Gln Thr

145

150

155

160

Ala Trp Gly Asp Ser Gly Val Tyr Tyr Cys Ser Val Val Ser Ala Gln
165 170 175

Asp Leu Gln Gly Asn Asn Glu Ala Tyr Ala Glu Leu Ile Val Leu Asp
180 185 190

Trp Leu Phe Val Val Val Val Cys Leu Ala Ala Phe Leu Ile Phe Leu
195 200 205

Leu Leu Gly Ile Cys Trp Cys Gln Cys Cys Pro His Thr Cys Cys Cys
210 215 220

Tyr Val Arg Cys Pro Cys Cys Pro Asp Lys Cys Cys Cys Pro Glu Ala
225 230 235 240

Leu Tyr Ala Ala Gly Lys Ala Ala Thr Ser Gly Val Pro Ser Ile Tyr
245 250 255

Ala Pro Ser Thr Tyr Ala His Leu Ser Pro Ala Lys Thr Pro Pro Pro
260 265 270

Pro Ala Met Ile Pro Met Gly Pro Ala Tyr Asn Gly Tyr Pro Gly Gly
275 280 285

Tyr Pro Gly Asp Val Asp Arg Asn Ser Ser Ala Gly Gly Gln Gly Ser
290 295 300

Tyr Val Pro Leu Leu Arg Asp Thr Asp Ser Ser Val Ala Ser Glu Val
305 310 315 320

Arg Ser Gly Tyr Arg Ile Gln Ala Ser Gln Gln Asp Asp Ser Met Arg
325 330 335

Val Leu Tyr Tyr Met Glu Lys Glu Leu Ala Asn Phe Asp Pro Ser Arg
340 345 350

Pro Gly Pro Pro Ser Gly Arg Val Glu Arg Ala Met Ser Glu Val Thr
355 360 365

Ser Leu His Glu Asp Asp Trp Arg Ser Arg Pro Ser Arg Gly Pro Ala
370 375 380

Leu Thr Pro Ile Arg Asp Glu Glu Trp Gly Gly His Ser Pro Arg Ser
385 390 395 400

Pro Arg Gly Trp Asp Gln Glu Pro Ala Arg Glu Gln Ala Gly Gly Gly
405 410 415

Trp Arg Ala Arg Arg Pro Arg Ala Arg Ser Val Asp Ala Leu Asp Asp
420 425 430

Leu Thr Pro Pro Ser Thr Ala Glu Ser Gly Ser Arg Ser Pro Thr Ser
435 440 445

Asn Gly Gly Arg Arg Ser Arg Ala Tyr Met Pro Pro Arg Ser Arg Ser
450 455 460

Arg Asp Asp Leu Tyr Asp Gln Asp Asp Ser Arg Asp Phe Pro Arg Ser

465 470 475 480

Arg Asp Pro His Tyr Asp Asp Phe Arg Ser Arg Glu Arg Pro Pro Ala

485 490 495

Asp Pro Arg Ser His His His Arg Thr Arg Asp Pro Arg Asp Asn Gly

500 505 510

Ser Arg Ser Gly Asp Leu Pro Tyr Asp Gly Arg Leu Leu Glu Glu Ala

515 520 525

Val Arg Lys Lys Gly Ser Glu Glu Arg Arg Arg Pro His Lys Glu Glu

530 535 540

Glu Glu Glu Ala Tyr Tyr Pro Pro Ala Pro Pro Pro Tyr Ser Glu Thr

545 550 555 560

Asp Ser Gln Ala Ser Arg Glu Arg Arg Leu Lys Lys Asn Leu Ala Leu

565 570 575

Ser Arg Glu Ser Leu Val Val

580

<210> 321

<211> 2153

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (244)..(1272)

<400> 321

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tattttccaa ggctccgggc cgcgctcggc gctggcctgc tgccccggcg ggtccgccgg 120

ccggaggcgg gagtacagg aagagccctc cacaaaagga ggcctcggcg gatcaggaca 180

gctgcagggtg ggtgtgcaga ctggtgagct gccagcaggg gccagacgc gccaggcctg 240

gag atg gct gga aac tgc tcc tgg gag gcc cat ccc ggc aac agg aac 288

Met Ala Gly Asn Cys Ser Trp Glu Ala His Pro Gly Asn Arg Asn

1 5 10 15

agg atg tgc cct ggc ctg agc gag gcc ccg gaa ctc tac agc cgg ggc 336

Arg Met Cys Pro Gly Leu Ser Glu Ala Pro Glu Leu Tyr Ser Arg Gly

20 25 30

ttc ctg acc atc gag cag atc gcg atg ctg ccg cct ccg gcc gtc atg 384

Phe Leu Thr Ile Glu Gln Ile Ala Met Leu Pro Pro Pro Ala Val Met

35 40 45

aac tac atc ttc ctg ctc ctc tgc ctg tgt ggc ctg gtg ggc aac ggg 432

Asn Tyr Ile Phe Leu Leu Leu Cys Leu Cys Gly Leu Val Gly Asn Gly

50 55 60

ctg gtc ctc tgg ttt ttc ggc ttc tcc atc aag agg aac ccc ttc tcc 480
Leu Val Leu Trp Phe Phe Gly Phe Ser Ile Lys Arg Asn Pro Phe Ser

65

70

75

atc tac ttc ctg cac ctg gcc agc gcc gat gtg ggc tac ctc ttc agc 528
Ile Tyr Phe Leu His Leu Ala Ser Ala Asp Val Gly Tyr Leu Phe Ser

80

85

90

95

aag gcg gtg ttc tcc atc ctg aac acg ggg ggc ttc ctg ggc acg ttt 576
Lys Ala Val Phe Ser Ile Leu Asn Thr Gly Gly Phe Leu Gly Thr Phe

100

105

110

gcc gac tac atc cgc agc gtg tgc cgg gtc ctg ggg ctc tgc atg ttc 624
Ala Asp Tyr Ile Arg Ser Val Cys Arg Val Leu Gly Leu Cys Met Phe

115

120

125

ctt acc ggc gtg agc ctc ctg ccg gcc gtc agc gcc gag cgc tgc gcc 672
Leu Thr Gly Val Ser Leu Leu Pro Ala Val Ser Ala Glu Arg Cys Ala

130

135

140

tgc gtc atc ttc ccc gcc tgg tac tgg cgc cgg cgg ccc aag cgc ctg 720
Ser Val Ile Phe Pro Ala Trp Tyr Trp Arg Arg Arg Pro Lys Arg Leu

145

150

155

tgc gcc gtg gtg tgc gcc ctg ctg tgg gtc ctg tcc ctc ctg gtc acc 768
Ser Ala Val Val Cys Ala Leu Leu Trp Val Leu Ser Leu Leu Val Thr

160

165

170

175

tgc ctg cac aac tac ttc tgc gtg ttc ctg ggc cgc ggg gcc ccc ggc 816

Cys Leu His Asn Tyr Phe Cys Val Phe Leu Gly Arg Gly Ala Pro Gly
180 185 190

gcg gcc tgc agg cac atg gac atc ttc ctg ggc atc ctc ctg ttc ctg 864
Ala Ala Cys Arg His Met Asp Ile Phe Leu Gly Ile Leu Leu Phe Leu
195 200 205

ctc tgc tgc ccg ctc atg gtg ctg ccc tgc ctg gcc ctc atc ctg cac 912
Leu Cys Cys Pro Leu Met Val Leu Pro Cys Leu Ala Leu Ile Leu His
210 215 220

gtg gag tgc cgg gcc cga cgg cgc cag cgc tct gcc aag ctc aac cac 960
Val Glu Cys Arg Ala Arg Arg Arg Gln Arg Ser Ala Lys Leu Asn His
225 230 235

gtc atc ctg gcc atg gtc tcc gtc ttc ctg gtg tcc tcc atc tac tta 1008
Val Ile Leu Ala Met Val Ser Val Phe Leu Val Ser Ser Ile Tyr Leu
240 245 250 255

ggg atc gac tgg ttc ctc ttc tgg gtc ttc cag atc ccg gcc ccc ttc 1056
Gly Ile Asp Trp Phe Leu Phe Trp Val Phe Gln Ile Pro Ala Pro Phe
260 265 270

ccc gag tac gtc act gac ctg tgc atc tgc atc aac agc agc gcc aag 1104
Pro Glu Tyr Val Thr Asp Leu Cys Ile Cys Ile Asn Ser Ser Ala Lys
275 280 285

ccc atc gtc tac ttc ctg gcc ggg agg gac aag tcg cag cgg ctg tgg 1152
Pro Ile Val Tyr Phe Leu Ala Gly Arg Asp Lys Ser Gln Arg Leu Trp

290

295

300

gag ccg ctc agg gtg gtc ttc cag cgg gcc ctg cgg gac ggc gct gag 1200

Glu Pro Leu Arg Val Val Phe Gln Arg Ala Leu Arg Asp Gly Ala Glu

305

310

315

ctg ggg gag gcc ggg ggc agc acg ccc aac aca gtc acc atg gag atg 1248

Leu Gly Glu Ala Gly Gly Ser Thr Pro Asn Thr Val Thr Met Glu Met

320

325

330

335

cag tgt ccc ccg ggg aac gcc tcc tgagactcca gcgcctggag gaggcagggg 1302

Gln Cys Pro Pro Gly Asn Ala Ser

340

caggaagcgg cctccaagac ccttcgcctt gggacaggaa tgggcacctg cttctgagtc 1362

catacaggag aagaaagatc tgtttcctct cctcgggcct cttcttcctt gggctgggga 1422

ctccaggggt ggctgggaga ctgggcagcc accagcaaac agacctgttg cccctgcccg 1482

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acctgccttt tctgactccg ggacgagcca gtcctaggct gcctccggga gcacttgagg 1962

tatcccgag gccatgagga ccactgggc agctcctgga cagcctcttg gctccagccc 2022

ccacccgaaa gtggacactg gctccgcct ggccacctgg ggactggcac tgtggtgcac 2082

agtggcccaa tgtggccaac ggaagtttta taaaagacaa aatgtatata aataaacatt 2142

ttataacttg c 2153

<210> 322

<211> 343

<212> PRT

<213> Homo sapiens

<400> 322

Met Ala Gly Asn Cys Ser Trp Glu Ala His Pro Gly Asn Arg Asn Arg

1 5 10 15

Met Cys Pro Gly Leu Ser Glu Ala Pro Glu Leu Tyr Ser Arg Gly Phe

20 25 30

Leu Thr Ile Glu Gln Ile Ala Met Leu Pro Pro Pro Ala Val Met Asn

35

40

45

Tyr Ile Phe Leu Leu Leu Cys Leu Cys Gly Leu Val Gly Asn Gly Leu

50

55

60

Val Leu Trp Phe Phe Gly Phe Ser Ile Lys Arg Asn Pro Phe Ser Ile

65

70

75

80

Tyr Phe Leu His Leu Ala Ser Ala Asp Val Gly Tyr Leu Phe Ser Lys

85

90

95

Ala Val Phe Ser Ile Leu Asn Thr Gly Gly Phe Leu Gly Thr Phe Ala

100

105

110

Asp Tyr Ile Arg Ser Val Cys Arg Val Leu Gly Leu Cys Met Phe Leu

115

120

125

Thr Gly Val Ser Leu Leu Pro Ala Val Ser Ala Glu Arg Cys Ala Ser

130

135

140

Val Ile Phe Pro Ala Trp Tyr Trp Arg Arg Arg Pro Lys Arg Leu Ser

145

150

155

160

Ala Val Val Cys Ala Leu Leu Trp Val Leu Ser Leu Leu Val Thr Cys

165

170

175

Leu His Asn Tyr Phe Cys Val Phe Leu Gly Arg Gly Ala Pro Gly Ala

180

185

190

Ala Cys Arg His Met Asp Ile Phe Leu Gly Ile Leu Leu Phe Leu Leu
195 200 205

Cys Cys Pro Leu Met Val Leu Pro Cys Leu Ala Leu Ile Leu His Val
210 215 220

Glu Cys Arg Ala Arg Arg Arg Gln Arg Ser Ala Lys Leu Asn His Val
225 230 235 240

Ile Leu Ala Met Val Ser Val Phe Leu Val Ser Ser Ile Tyr Leu Gly
245 250 255

Ile Asp Trp Phe Leu Phe Trp Val Phe Gln Ile Pro Ala Pro Phe Pro
260 265 270

Glu Tyr Val Thr Asp Leu Cys Ile Cys Ile Asn Ser Ser Ala Lys Pro
275 280 285

Ile Val Tyr Phe Leu Ala Gly Arg Asp Lys Ser Gln Arg Leu Trp Glu
290 295 300

Pro Leu Arg Val Val Phe Gln Arg Ala Leu Arg Asp Gly Ala Glu Leu
305 310 315 320

Gly Glu Ala Gly Gly Ser Thr Pro Asn Thr Val Thr Met Glu Met Gln
325 330 335

Cys Pro Pro Gly Asn Ala Ser
340

<210> 323

<211> 1677

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (183)..(515)

<400> 323

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aaagccgagc agagctgggt ggcgtctccg ggccgccgct ccgacgggcc agcgccctcc 180

cc atg tcc ctg ctc cca cgc cgc gcc cct ccg gtc agc atg agg ctc 227

Met Ser Leu Leu Pro Arg Arg Ala Pro Pro Val Ser Met Arg Leu

1 5 10 15

ctg gcg gcc gcg ctg ctc ctg ctg ctg ctg gcg ctg tac acc gcg cgt 275

Leu Ala Ala Ala Leu Leu Leu Leu Leu Leu Ala Leu Tyr Thr Ala Arg

20 25 30

gtg gac ggg tcc aaa tgc aag tgc tcc cgg aag gga ccc aag atc cgc 323

Val Asp Gly Ser Lys Cys Lys Cys Ser Arg Lys Gly Pro Lys Ile Arg

35 40 45

tac agc gac gtg aag aag ctg gaa atg aag cca aag tac ccg cac tgc 371
Tyr Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr Pro His Cys

50

55

60

gag gag aag atg gtt atc atc acc acc aag agc gtg tcc agg tac cga 419
Glu Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val Ser Arg Tyr Arg

65

70

75

ggt cag gag cac tgc ctg cac ccc aag ctg cag agc acc aag cgc ttc 467
Gly Gln Glu His Cys Leu His Pro Lys Leu Gln Ser Thr Lys Arg Phe

80

85

90

95

atc aag tgg tac aac gcc tgg aac gag aag cgc agg gtc tac gaa gaa 515
Ile Lys Trp Tyr Asn Ala Trp Asn Glu Lys Arg Arg Val Tyr Glu Glu

100

105

110

tagggtgaaa aacctcagaa gggaaaactc caaaccagtt gggagacttg tgcaaaggac 575

tttgagatt aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagcctt tctttctcac 635

aggcataaga cacaaattat atattgttat gaagcacttt ttaccaacgg tcagttttta 695

cattttatag ctgcgtgcga aaggcttcca gatgggagac ccatctctct tgtgctccag 755

acttcatcac aggctgcttt ttatcaaaaa ggggaaaact catgcctttc ctttttaaaa 815

aatgcttttt tgtatttgtc catacgtcac tatacatctg agctttataa gcgcccggga 875

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gcttccgctt agaggtcctg gcgcctcggc acagctgcca cgggctctcc tgggcttatg 995

gccggtcaca gcctcagtgt gactccacag tggcccctgt agccgggcaa gcaggagcag 1055

gtctctctgc atctgttctc tgaggaactc aagtttggtt gccagaaaaa tgtgcttcat 1115

tccccctgg ttaattttta cacaccctag gaaacatttc caagatcctg tgatggcgag 1175

acaaatgac cttaaagaag gtgtggggtc tttcccatcc tgaggatttc tgaaagggtc 1235

acaggttcaa tatttaatgc ttcagaagca tgtgaggttc ccaacactgt cagcaaaaac 1295

cttaggagaa aacttaaaaa tatatgaata catgcgcaat acacagctac agacacacat 1355

tctgttgaca agggaaaacc ttcaaagcat gtttctttcc ctcaccacaa cagaacatgc 1415

agtactaaag caatatatit gtgattcccc atgtaattct tcaatgttaa acagtgcagt 1475

cctctttcga aagctaagat gaccatgcgc cctttcctct gtacatatac ccttaagaac 1535

gccccctcca cacactgccc ccagtatat gccgcattgt actgctgtgt tatatgctat 1595

gtacatgtca gaaaccatta gcattgcatg caggtttcat attctttcta agatggaaag 1655

taataaaaata tatttgaaat gt 1677

<210> 324

<211> 111

<212> PRT

<213> Homo sapiens

<400> 324

Met Ser Leu Leu Pro Arg Arg Ala Pro Pro Val Ser Met Arg Leu Leu

1 5 10 15

Ala Ala Ala Leu Leu Leu Leu Leu Ala Leu Tyr Thr Ala Arg Val

20 25 30

Asp Gly Ser Lys Cys Lys Cys Ser Arg Lys Gly Pro Lys Ile Arg Tyr

35 40 45

Ser Asp Val Lys Lys Leu Glu Met Lys Pro Lys Tyr Pro His Cys Glu

50 55 60

Glu Lys Met Val Ile Ile Thr Thr Lys Ser Val Ser Arg Tyr Arg Gly

65 70 75 80

Gln Glu His Cys Leu His Pro Lys Leu Gln Ser Thr Lys Arg Phe Ile

85 90 95

Lys Trp Tyr Asn Ala Trp Asn Glu Lys Arg Arg Val Tyr Glu Glu

100 105 110

<210> 325

<211> 1712

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (243)..(1511)

<400> 325

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gggccccgcc gtgggcatgg gcgcactggc ccgggcgctg ctgctgcctc tgctggccca 180

gtggctcctg cgccgccccc cggagctggc ccccgccccc ttcacgcggc tactacctgg 240

ag atg ctg atc ggg acc ccc ccg cag aag cta cag att ctc gtt gac 287

Met Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp

1 5 10 15

act gga agc agt aac ttt gcc gtg gca gga acc ccg cac tcc tac ata 335

Thr Gly Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile

20 25 30

gac acg tac ttt gac aca gag agg tct agc aca tac cgc tcc aag ggc 383

Asp Thr Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly

35 40 45

ttt gac gtc aca gtg aag tac aca caa gga agc tgg acg ggc ttc gtt 431
Phe Asp Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val

50

55

60

ggg gaa gac ctc gtc acc atc ccc aaa ggc ttc aat act tct ttt ctt 479
Gly Glu Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu

65

70

75

gtc aac att gcc act att ttt gaa tca ggg aat ttc ttt ttg cct ggg 527
Val Asn Ile Ala Thr Ile Phe Glu Ser Gly Asn Phe Phe Leu Pro Gly

80

85

90

95

att caa tgg aat gga ata ctt ggc cta gct tat gcc aca ctt gcc aag 575
Ile Gln Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys

100

105

110

cca tca agt tct ctg gag acc ttc ttc gac tcc ctg gtg aca caa gca 623
Pro Ser Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala

115

120

125

aac atc ccc aac gtt ttc tcc atg cag atg cgt gga gcc ggc ttg ccc 671
Asn Ile Pro Asn Val Phe Ser Met Gln Met Arg Gly Ala Gly Leu Pro

130

135

140

gtt gct gga tct ggg acc aac gga ggt agt ctt gtc ttg ggt gga att 719
Val Ala Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile

145

150

155

gaa cca agt ttg tat aaa gga gac atc tgg tat acc cct att aag gaa 767

Glu Pro Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu
160 165 170 175

gag tgg tac tac cag ata gaa att ctg aaa ttg gaa att gga ggc caa 815
Glu Trp Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln
180 185 190

agc ctt aat ctg gac tgc aga gag tat aac gca gac aag gcc atc gtg 863
Ser Leu Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val
195 200 205

gac agt ggc acc acg ctg ctg cgc ctg ccc cag aag gtg ttt gat gca 911
Asp Ser Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala
210 215 220

gtg gtg gaa gct gtg gcc cgc gca tct ctg att cca gaa ttc tct gat 959
Val Val Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp
225 230 235

ggt ttc tgg act ggg tcc cag ctg gcg tgc tgg acg aat tcg gaa aca 1007
Gly Phe Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr
240 245 250 255

cct tgg tct tac ttc cct aaa atc tcc atc tac ctg aga gac gag aac 1055
Pro Trp Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn
260 265 270

tcc agc agg tca ttc cgt atc aca atc ctg cct cag ctt tac att cag 1103
Ser Ser Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln

275

280

285

ccc atg atg ggg gcc ggc ctg aat tat gaa tgt tac cga ttc ggc att 1151

Pro Met Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile

290

295

300

tcc cca tcc aca aat gcg ctg gtg atc ggt gcc acg gtg atg gag ggc 1199

Ser Pro Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly

305

310

315

ttc tac gtc atc ttc gac aga gcc cag aag agg gtg ggc ttc gca gcg 1247

Phe Tyr Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala

320

325

330

335

agc ccc tgt gca gaa att gca ggt gct gca gtg tct gaa att tcc ggg 1295

Ser Pro Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly

340

345

350

cct ttc tca aca gag gat gta gcc agc aac tgt gtc ccc gct cag tct 1343

Pro Phe Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser

355

360

365

ttg agc gag ccc att ttg tgg att gtg tcc tat gcg ctc atg agc gtc 1391

Leu Ser Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val

370

375

380

tgt gga gcc atc ctc ctt gtc tta atc gtc ctg ctg ctg ctg ccg ttc 1439

Cys Gly Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe

385

390

395

cgg tgt cag cgt cgc ccc cgt gac cct gag gtc gtc aat gat gag tcc 1487
 Arg Cys Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser
 400 405 410 415

tct ctg gtc aga cat cgc tgg aaa tgaatagcca ggcctgacct caagcaacca 1541
 Ser Leu Val Arg His Arg Trp Lys
 420

tgaactcagc tattaagaaa atcacatttc cagggcagca gccgagatcg atggtggcgc 1601

tttctctgt gccaccgct cttcaatctc tgttctgctc ccagatgcct tctagattca 1661

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<211> 423

<212> PRT

<213> Homo sapiens

<400> 326

Met Leu Ile Gly Thr Pro Pro Gln Lys Leu Gln Ile Leu Val Asp Thr
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Gly Ser Ser Asn Phe Ala Val Ala Gly Thr Pro His Ser Tyr Ile Asp
 20 25 30

Thr Tyr Phe Asp Thr Glu Arg Ser Ser Thr Tyr Arg Ser Lys Gly Phe

35

40

45

Asp Val Thr Val Lys Tyr Thr Gln Gly Ser Trp Thr Gly Phe Val Gly

50

55

60

Glu Asp Leu Val Thr Ile Pro Lys Gly Phe Asn Thr Ser Phe Leu Val

65

70

75

80

Asn Ile Ala Thr Ile Phe Glu Ser Gly Asn Phe Phe Leu Pro Gly Ile

85

90

95

Gln Trp Asn Gly Ile Leu Gly Leu Ala Tyr Ala Thr Leu Ala Lys Pro

100

105

110

Ser Ser Ser Leu Glu Thr Phe Phe Asp Ser Leu Val Thr Gln Ala Asn

115

120

125

Ile Pro Asn Val Phe Ser Met Gln Met Arg Gly Ala Gly Leu Pro Val

130

135

140

Ala Gly Ser Gly Thr Asn Gly Gly Ser Leu Val Leu Gly Gly Ile Glu

145

150

155

160

Pro Ser Leu Tyr Lys Gly Asp Ile Trp Tyr Thr Pro Ile Lys Glu Glu

165

170

175

Trp Tyr Tyr Gln Ile Glu Ile Leu Lys Leu Glu Ile Gly Gly Gln Ser

180

185

190

Leu Asn Leu Asp Cys Arg Glu Tyr Asn Ala Asp Lys Ala Ile Val Asp
195 200 205

Ser Gly Thr Thr Leu Leu Arg Leu Pro Gln Lys Val Phe Asp Ala Val
210 215 220

Val Glu Ala Val Ala Arg Ala Ser Leu Ile Pro Glu Phe Ser Asp Gly
225 230 235 240

Phe Trp Thr Gly Ser Gln Leu Ala Cys Trp Thr Asn Ser Glu Thr Pro
245 250 255

Trp Ser Tyr Phe Pro Lys Ile Ser Ile Tyr Leu Arg Asp Glu Asn Ser
260 265 270

Ser Arg Ser Phe Arg Ile Thr Ile Leu Pro Gln Leu Tyr Ile Gln Pro
275 280 285

Met Met Gly Ala Gly Leu Asn Tyr Glu Cys Tyr Arg Phe Gly Ile Ser
290 295 300

Pro Ser Thr Asn Ala Leu Val Ile Gly Ala Thr Val Met Glu Gly Phe
305 310 315 320

Tyr Val Ile Phe Asp Arg Ala Gln Lys Arg Val Gly Phe Ala Ala Ser
325 330 335

Pro Cys Ala Glu Ile Ala Gly Ala Ala Val Ser Glu Ile Ser Gly Pro
340 345 350

Phe Ser Thr Glu Asp Val Ala Ser Asn Cys Val Pro Ala Gln Ser Leu

355

360

365

Ser Glu Pro Ile Leu Trp Ile Val Ser Tyr Ala Leu Met Ser Val Cys

370

375

380

Gly Ala Ile Leu Leu Val Leu Ile Val Leu Leu Leu Leu Pro Phe Arg

385

390

395

400

Cys Gln Arg Arg Pro Arg Asp Pro Glu Val Val Asn Asp Glu Ser Ser

405

410

415

Leu Val Arg His Arg Trp Lys

420

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<211> 3017

<212> DNA

<213> Homo sapiens

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<221> CDS

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<400> 327

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cgggcggcct cgtagcgggg ccccgatcc ccgagtggcg gccggagcct cgaaaagaga 120

ttctcagcgc tgattttgag atg atg ggc ttg gga aac ggg cgt cgc agc atg 173

Met Met Gly Leu Gly Asn Gly Arg Arg Ser Met

1

5

10

aag tcg ccg ccc ctc gtg ctg gcc gcc ctg gtg gcc tgc atc atc gtc 221

Lys Ser Pro Pro Leu Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val

15

20

25

ttg ggc ttc aac tac tgg att gcg agc tcc cgg agc gtg gac ctc cag 269

Leu Gly Phe Asn Tyr Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln

30

35

40

aca cgg atc atg gag ctg gaa ggc agg gtc cgc agg gcg gct gca gag 317

Thr Arg Ile Met Glu Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu

45

50

55

aga ggc gcc gtg gag ctg aag aag aac gag ttc cag gga gag ctg gag 365

Arg Gly Ala Val Glu Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu

60

65

70

75

aag cag cgg gag cag ctt gac aaa atc cag tcc agc cac aac ttc cag 413

Lys Gln Arg Glu Gln Leu Asp Lys Ile Gln Ser Ser His Asn Phe Gln

80

85

90

ctg gag agc gtc aac aag ctg tac cag gac gaa aag gcg gtt ttg gtg 461

Leu Glu Ser Val Asn Lys Leu Tyr Gln Asp Glu Lys Ala Val Leu Val

95

100

105

aat aac atc acc aca ggt gag agg ctc atc cga gtg ctg caa gac cag 509

Asn Asn Ile Thr Thr Gly Glu Arg Leu Ile Arg Val Leu Gln Asp Gln

110

115

120

tta aag acc ctg cag agg aat tac ggc agg ctg cag cag gat gtc ctc 557

Leu Lys Thr Leu Gln Arg Asn Tyr Gly Arg Leu Gln Gln Asp Val Leu

125

130

135

cag ttt cag aag aac cag acc aac ctg gag agg aag ttc tcc tac gac 605

Gln Phe Gln Lys Asn Gln Thr Asn Leu Glu Arg Lys Phe Ser Tyr Asp

140

145

150

155

ctg agc cag tgc atc aat cag atg aag gag gtg aag gaa cag tgt gag 653

Leu Ser Gln Cys Ile Asn Gln Met Lys Glu Val Lys Glu Gln Cys Glu

160

165

170

gag cga ata gaa gag gtc acc aaa aag ggg aat gaa gct gta gct tcc 701

Glu Arg Ile Glu Glu Val Thr Lys Lys Gly Asn Glu Ala Val Ala Ser

175

180

185

aga gac ctg agt gaa aac aac gac cag aga cag cag ctc caa gcc ctc 749

Arg Asp Leu Ser Glu Asn Asn Asp Gln Arg Gln Gln Leu Gln Ala Leu

190

195

200

agt gag cct cag ccc agg ctg cag gca gca ggc ctg cca cac aca gag 797

Ser Glu Pro Gln Pro Arg Leu Gln Ala Ala Gly Leu Pro His Thr Glu

205

210

215

gtg cca caa ggg aag gga aac gtg ctt ggt aac agc aag tcc cag aca 845
Val Pro Gln Gly Lys Gly Asn Val Leu Gly Asn Ser Lys Ser Gln Thr
220 225 230 235

cca gcc ccc agt tcc gaa gtg gtt ttg gat tca aag aga caa gtt gag 893
Pro Ala Pro Ser Ser Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu
240 245 250

aaa gag gaa acc aat gag atc cag gtg gtg aat gag gag cct cag agg 941
Lys Glu Glu Thr Asn Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg
255 260 265

gac agg ctg ccg cag gag cca ggc cgg gag cag gtg gtg gaa gac aga 989
Asp Arg Leu Pro Gln Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg
270 275 280

cct gta ggt gga aga ggc ttc ggg gga gcc gga gaa ctg ggc cag acc 1037
Pro Val Gly Gly Arg Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr
285 290 295

cca cag gtg cag gct gcc ctg tca gtg agc cag gaa aat cca gag atg 1085
Pro Gln Val Gln Ala Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met
300 305 310 315

gag ggc cct gag cga gac cag ctt gtc atc ccc gac gga cag gag gag 1133
Glu Gly Pro Glu Arg Asp Gln Leu Val Ile Pro Asp Gly Gln Glu Glu
320 325 330

gag cag gaa gct gcc ggg gaa ggg aga aac cag cag aaa ctg aga gga 1181

Glu Gln Glu Ala Ala Gly Glu Gly Arg Asn Gln Gln Lys Leu Arg Gly

335

340

345

gaa gat gac tac aac atg gat gaa aat gaa gca gaa tct gag aca gac 1229

Glu Asp Asp Tyr Asn Met Asp Glu Asn Glu Ala Glu Ser Glu Thr Asp

350

355

360

aag caa gca gcc ctg gca ggg aat gac aga aac ata gat gtt ttt aat 1277

Lys Gln Ala Ala Leu Ala Gly Asn Asp Arg Asn Ile Asp Val Phe Asn

365

370

375

gtt gaa gat cag aaa aga gac acc ata aat tta ctt gat cag cgt gaa 1325

Val Glu Asp Gln Lys Arg Asp Thr Ile Asn Leu Leu Asp Gln Arg Glu

380

385

390

395

aag cgg aat cat aca ctc tgaattgaac tggaatcaca tatttcacaa 1373

Lys Arg Asn His Thr Leu

400

cagggccgaa gagatgactt taaaatgttc atgagggact gaatactgaa aactgtgaaa 1433

tgactaaat aaaatgtaca tctgaagatg attattgtga aattttagta tgcactttgt 1493

gtaggaaaa atggaatggt cttttaaaca gcttttgggg ggtactttgg aagtgtctaa 1553

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catagttctc cttcaagtgt tggcgacagc ggggcttcct gattctggaa tataactttg 1673

tgtaaattaa cagccaccta tagaagagtc catctgctgt gaaggagaga cagagaactc 1733

tgggttccgt cgiccgtgcc acgtgctgta ccaagtgtg gtgccagcct gttacctgtt 1793

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taagtctaaa tacaaagctg ttctgtgtga gaatttttta aaaggctact tgtataataa 1973

cccttgatcat ttttaatgta caaaacgcta ttaagtggct tagaatttga acatttgttg 2033

tctttattta ctttgcttcg tgtgtgggca aagcaacatc ttccctaaat atatattacc 2093

aagaaaagca agaagcagat taggtttttg acaaaacaaa caggccaaaa gggggctgac 2153

ctggagcaga gcatggtgag aggcaaggca tgagagggca agttttgttg tggacagatc 2213

tgtgcctact ttattactgg agtaaaagaa aacaaagttc attgatgtcg aaggatatat 2273

acagtgttag aaattaggac tgtttagaaa aacaggaata caatggttgt ttttatcata 2333

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tgaattttga aaattactac ttaatcctaa ttcacaataa caatggcatt aaggtttgac 2453

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gttaaacttt cccacccaga aaaggcaact tagataaaat cttagagtac tttcatactc 2873

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gaaataaaat gttctgttca actt 3017

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<212> PRT

<213> Homo sapiens

<400> 328

Met Met Gly Leu Gly Asn Gly Arg Arg Ser Met Lys Ser Pro Pro Leu

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Val Leu Ala Ala Leu Val Ala Cys Ile Ile Val Leu Gly Phe Asn Tyr

20

25

30

Trp Ile Ala Ser Ser Arg Ser Val Asp Leu Gln Thr Arg Ile Met Glu

35

40

45

Leu Glu Gly Arg Val Arg Arg Ala Ala Ala Glu Arg Gly Ala Val Glu

50

55

60

Leu Lys Lys Asn Glu Phe Gln Gly Glu Leu Glu Lys Gln Arg Glu Gln

65

70

75

80

Leu Asp Lys Ile Gln Ser Ser His Asn Phe Gln Leu Glu Ser Val Asn

85

90

95

Lys Leu Tyr Gln Asp Glu Lys Ala Val Leu Val Asn Asn Ile Thr Thr

100

105

110

Gly Glu Arg Leu Ile Arg Val Leu Gln Asp Gln Leu Lys Thr Leu Gln

115

120

125

Arg Asn Tyr Gly Arg Leu Gln Gln Asp Val Leu Gln Phe Gln Lys Asn

130

135

140

Gln Thr Asn Leu Glu Arg Lys Phe Ser Tyr Asp Leu Ser Gln Cys Ile

145

150

155

160

Asn Gln Met Lys Glu Val Lys Glu Gln Cys Glu Glu Arg Ile Glu Glu

165

170

175

Val Thr Lys Lys Gly Asn Glu Ala Val Ala Ser Arg Asp Leu Ser Glu

180

185

190

Asn Asn Asp Gln Arg Gln Gln Leu Gln Ala Leu Ser Glu Pro Gln Pro

195

200

205

Arg Leu Gln Ala Ala Gly Leu Pro His Thr Glu Val Pro Gln Gly Lys

210

215

220

Gly Asn Val Leu Gly Asn Ser Lys Ser Gln Thr Pro Ala Pro Ser Ser

225

230

235

240

Glu Val Val Leu Asp Ser Lys Arg Gln Val Glu Lys Glu Glu Thr Asn

245

250

255

Glu Ile Gln Val Val Asn Glu Glu Pro Gln Arg Asp Arg Leu Pro Gln

260

265

270

Glu Pro Gly Arg Glu Gln Val Val Glu Asp Arg Pro Val Gly Gly Arg

275

280

285

Gly Phe Gly Gly Ala Gly Glu Leu Gly Gln Thr Pro Gln Val Gln Ala

290

295

300

Ala Leu Ser Val Ser Gln Glu Asn Pro Glu Met Glu Gly Pro Glu Arg

305

310

315

320

Asp Gln Leu Val Ile Pro Asp Gly Gln Glu Glu Glu Gln Glu Ala Ala

325

330

335

Gly Glu Gly Arg Asn Gln Gln Lys Leu Arg Gly Glu Asp Asp Tyr Asn
 340 345 350

Met Asp Glu Asn Glu Ala Glu Ser Glu Thr Asp Lys Gln Ala Ala Leu
 355 360 365

Ala Gly Asn Asp Arg Asn Ile Asp Val Phe Asn Val Glu Asp Gln Lys
 370 375 380

Arg Asp Thr Ile Asn Leu Leu Asp Gln Arg Glu Lys Arg Asn His Thr
 385 390 395 400

Leu

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<211> 2372

<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (77)..(1255)

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cgcggtctcg tagcgc atg ggc ctc ctc cga ggc ggg ctc cca tgc gct cgg 112

Met Gly Leu Leu Arg Gly Gly Leu Pro Cys Ala Arg

1

5

10

gcc atg gcg cgc ctg ggc gct gtg cgc tcc cac tac tgc gcc ctg ctg 160

Ala Met Ala Arg Leu Gly Ala Val Arg Ser His Tyr Cys Ala Leu Leu

15

20

25

ctg gcc gcg gcg ctg gcc gtc tgc gcc ttc tac tac ctc ggc tca ggc 208

Leu Ala Ala Ala Leu Ala Val Cys Ala Phe Tyr Tyr Leu Gly Ser Gly

30

35

40

cgg gag acc ttc tcc agc gcc acc aag agg ctg aag gag gcc cgc gcc 256

Arg Glu Thr Phe Ser Ser Ala Thr Lys Arg Leu Lys Glu Ala Arg Ala

45

50

55

60

ggg gct ccc gcc gcg ccc tcg ccg ccc gcg ctg gag cta gcg cgg ggc 304

Gly Ala Pro Ala Ala Pro Ser Pro Pro Ala Leu Glu Leu Ala Arg Gly

65

70

75

tcc gtg gcg cca gcc ccc ggc gcg aag gcc aag agc ttg gag ggc ggc 352

Ser Val Ala Pro Ala Pro Gly Ala Lys Ala Lys Ser Leu Glu Gly Gly

80

85

90

ggt gcc ggg ccg gtg gac tac cac ctg ctg atg atg ttc acc aag gcg 400

Gly Ala Gly Pro Val Asp Tyr His Leu Leu Met Met Phe Thr Lys Ala

95

100

105

gag cac aat gcc gcg ctg cag gcc aag gcc cgc gtc gcg ctg cgc tca 448

Glu His Asn Ala Ala Leu Gln Ala Lys Ala Arg Val Ala Leu Arg Ser

110

115

120

ctg ctg cgc ctc gcc aag ttc gag gcg cac gag gtg ctt aac ctt cac 496

Leu Leu Arg Leu Ala Lys Phe Glu Ala His Glu Val Leu Asn Leu His

125

130

135

140

ttc gtg agc gag gag gcc agc cgc gag gtg gcc aag ggc ctg ctg cgg 544

Phe Val Ser Glu Glu Ala Ser Arg Glu Val Ala Lys Gly Leu Leu Arg

145

150

155

gag ctc ctg ccg ccc gcc gct ggc ttc aag tgc aag gtc atc ttc cac 592

Glu Leu Leu Pro Pro Ala Ala Gly Phe Lys Cys Lys Val Ile Phe His

160

165

170

gat gtt gct gtg ctg acg gat aag ctc ttc ccc atc gtg gag gcc atg 640

Asp Val Ala Val Leu Thr Asp Lys Leu Phe Pro Ile Val Glu Ala Met

175

180

185

cag aag cac ttc agt gct ggc ttg gga acc tac tac agt gac tcc atc 688

Gln Lys His Phe Ser Ala Gly Leu Gly Thr Tyr Tyr Ser Asp Ser Ile

190

195

200

ttc ttc ctc tcg gtc gcc atg cat cag atc atg ccc aaa gag atc ctg 736

Phe Phe Leu Ser Val Ala Met His Gln Ile Met Pro Lys Glu Ile Leu

205

210

215

220

cag atc att cag ctg gac cta gac ctg aag ttt aag acc aac atc cgg 784

Gln Ile Ile Gln Leu Asp Leu Asp Leu Lys Phe Lys Thr Asn Ile Arg

225

230

235

gag ttg ttt gag gaa ttt gac agt ttc ctg cca ggc gcc atc atc ggc 832

Glu Leu Phe Glu Glu Phe Asp Ser Phe Leu Pro Gly Ala Ile Ile Gly

240

245

250

ata gcc cgg gag atg cag cca gtt tac agg cac aca ttc tgg cag ttc 880

Ile Ala Arg Glu Met Gln Pro Val Tyr Arg His Thr Phe Trp Gln Phe

255

260

265

cgc cat gag aac ccc cag acc cgg gtt ggg ggc ccg ccc ccc gag ggc 928

Arg His Glu Asn Pro Gln Thr Arg Val Gly Gly Pro Pro Pro Glu Gly

270

275

280

ctg ccg ggc ttc aac agc ggg gtg atg ttg ctg aac ctg gag gcc atg 976

Leu Pro Gly Phe Asn Ser Gly Val Met Leu Leu Asn Leu Glu Ala Met

285

290

295

300

cgc cag tcc ccg ctc tac agc cgc ctg ctg gag ccg gcg cag gtg cag 1024

Arg Gln Ser Pro Leu Tyr Ser Arg Leu Leu Glu Pro Ala Gln Val Gln

305

310

315

cag ctg gcc gac aag tac cac ttc cgc ggc cac ctc ggg gac cag gac 1072

Gln Leu Ala Asp Lys Tyr His Phe Arg Gly His Leu Gly Asp Gln Asp

320

325

330

ttc ttc acc atg atc ggc atg gag cac ccc aag ctc ttc cat gtg ctg 1120

Phe Phe Thr Met Ile Gly Met Glu His Pro Lys Leu Phe His Val Leu

335

340

345

gac tgt acc tgg aac cgg cag ctg tgc acc tgg tgg agg gac cat ggc 1168
 Asp Cys Thr Trp Asn Arg Gln Leu Cys Thr Trp Trp Arg Asp His Gly
 350 355 360

tac agt gac gtc ttc gag gcc tat ttc agg tgt gag ggc cac gtc aag 1216
 Tyr Ser Asp Val Phe Glu Ala Tyr Phe Arg Cys Glu Gly His Val Lys
 365 370 375 380

atc tac cac ggg aac tgc aac act ccc atc ccg gag gac taggcgctcc 1265
 Ile Tyr His Gly Asn Cys Asn Thr Pro Ile Pro Glu Asp
 385 390

ccgtgccttg cccccggggc ctccagatct ggggggagga cagggttcct tgggacagac 1325

ccaagggcag tgtctgaccc gctagagaga caccgcaggg aagtcctgtg attaaggtgc 1385

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accaactggg gcctgcataa gaaaacttat ctcattatta gagtactcac agcttgtatc 1925

tcccagctac atcctagaac cccattgtcc tttattccac caaaccagct ccaggtgacc 1985

agactctact cagaaagcaa attcgtcatc aaagaacaga gactggccac cacaaggaca 2045

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gtcaagcctg taatcccaac actttgggag accgaggtgg gggtatcgat tgagcctcgg 2165

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ttagccaggt gtggtggctt gtgcttgttg tcccggctac ttgggaggct gaagtgggag 2285

ggtggcttga gtccaggagt tcactgcact gagctgtgat cacaccactg cactccagcc 2345

tggacgacag agtgagacgt ccatctc 2372

<210> 330

<211> 393

<212> PRT

<213> Homo sapiens

<400> 330

Met Gly Leu Leu Arg Gly Gly Leu Pro Cys Ala Arg Ala Met Ala Arg

1 5 10 15

Leu Gly Ala Val Arg Ser His Tyr Cys Ala Leu Leu Leu Ala Ala Ala

20 25 30

Leu Ala Val Cys Ala Phe Tyr Tyr Leu Gly Ser Gly Arg Glu Thr Phe

35 40 45

Ser Ser Ala Thr Lys Arg Leu Lys Glu Ala Arg Ala Gly Ala Pro Ala

50 55 60

Ala Pro Ser Pro Pro Ala Leu Glu Leu Ala Arg Gly Ser Val Ala Pro

65 70 75 80

Ala Pro Gly Ala Lys Ala Lys Ser Leu Glu Gly Gly Gly Ala Gly Pro

85 90 95

Val Asp Tyr His Leu Leu Met Met Phe Thr Lys Ala Glu His Asn Ala

100 105 110

Ala Leu Gln Ala Lys Ala Arg Val Ala Leu Arg Ser Leu Leu Arg Leu

115 120 125

Ala Lys Phe Glu Ala His Glu Val Leu Asn Leu His Phe Val Ser Glu

130 135 140

Glu Ala Ser Arg Glu Val Ala Lys Gly Leu Leu Arg Glu Leu Leu Pro

145 150 155 160

Pro Ala Ala Gly Phe Lys Cys Lys Val Ile Phe His Asp Val Ala Val
165 170 175

Leu Thr Asp Lys Leu Phe Pro Ile Val Glu Ala Met Gln Lys His Phe
180 185 190

Ser Ala Gly Leu Gly Thr Tyr Tyr Ser Asp Ser Ile Phe Phe Leu Ser
195 200 205

Val Ala Met His Gln Ile Met Pro Lys Glu Ile Leu Gln Ile Ile Gln
210 215 220

Leu Asp Leu Asp Leu Lys Phe Lys Thr Asn Ile Arg Glu Leu Phe Glu
225 230 235 240

Glu Phe Asp Ser Phe Leu Pro Gly Ala Ile Ile Gly Ile Ala Arg Glu
245 250 255

Met Gln Pro Val Tyr Arg His Thr Phe Trp Gln Phe Arg His Glu Asn
260 265 270

Pro Gln Thr Arg Val Gly Gly Pro Pro Pro Glu Gly Leu Pro Gly Phe
275 280 285

Asn Ser Gly Val Met Leu Leu Asn Leu Glu Ala Met Arg Gln Ser Pro
290 295 300

Leu Tyr Ser Arg Leu Leu Glu Pro Ala Gln Val Gln Gln Leu Ala Asp
305 310 315 320

Lys Tyr His Phe Arg Gly His Leu Gly Asp Gln Asp Phe Phe Thr Met

325

330

335

Ile Gly Met Glu His Pro Lys Leu Phe His Val Leu Asp Cys Thr Trp

340

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350

Asn Arg Gln Leu Cys Thr Trp Trp Arg Asp His Gly Tyr Ser Asp Val

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Met Val Leu Val Glu Ile Leu Asp Val Asn Asp Asn Val Pro Glu Val

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atg gtt act tca ctg tcg ctc cct gtg caa gag gat gct cag gtg ggt 150

Met Val Thr Ser Leu Ser Leu Pro Val Gln Glu Asp Ala Gln Val Gly

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acc gtc att gcc ctg att agc gtg tcg gat cgt gac tct gga gcc aat 198

Thr Val Ile Ala Leu Ile Ser Val Ser Asp Arg Asp Ser Gly Ala Asn

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gga cag gtc atc tgc tca ctg aca cct cat gtt ccc ttc aag ctg gtg 246

Gly Gln Val Ile Cys Ser Leu Thr Pro His Val Pro Phe Lys Leu Val

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tcc acc tac aag aat tac tac tcg ttg gtg ctg gac agc gcc ctg gac 294

Ser Thr Tyr Lys Asn Tyr Tyr Ser Leu Val Leu Asp Ser Ala Leu Asp

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cgc gag agc gtg tcg gcc tat gag ctg gtg gtg act gcg cgg gat ggg 342

Arg Glu Ser Val Ser Ala Tyr Glu Leu Val Val Thr Ala Arg Asp Gly

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ggc tcg cct tcg ctg tgg gcc acg gct aga gtg tcc gtg gag gtg gcc 390

Gly Ser Pro Ser Leu Trp Ala Thr Ala Arg Val Ser Val Glu Val Ala

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gac gtg aac gac aat gcg cct gcg ttc gcg cag ccc gag tac aca gtg	438
Asp Val Asn Asp Asn Ala Pro Ala Phe Ala Gln Pro Glu Tyr Thr Val	
120 125 130	
ttc gtg aag gag aac aac ccg ccg ggc tgc cac atc ttc acg gtg tcg	486
Phe Val Lys Glu Asn Asn Pro Pro Gly Cys His Ile Phe Thr Val Ser	
135 140 145	
gca tgg gac gcg gac gcg cag aag aac gcg ctg gtg tcc tac tcg ctg	534
Ala Trp Asp Ala Asp Ala Gln Lys Asn Ala Leu Val Ser Tyr Ser Leu	
150 155 160 165	
gtg gag cgg cgg gtg ggc gag cac gca ctg tcg agc tac gtg tcg gtg	582
Val Glu Arg Arg Val Gly Glu His Ala Leu Ser Ser Tyr Val Ser Val	
170 175 180	
cac gcg gag agc ggc aag gtg tac gcg ctg cag ccg cta gac cac gag	630
His Ala Glu Ser Gly Lys Val Tyr Ala Leu Gln Pro Leu Asp His Glu	
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gag ctg gag ctg ctg cag ttc cag gtg agc gcg cgc gac gcc ggc gtg	678
Glu Leu Glu Leu Leu Gln Phe Gln Val Ser Ala Arg Asp Ala Gly Val	
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ccg cct ctg ggc agc aac gtg acg ctg cag gtg ttc gtg ctg gac gag	726
Pro Pro Leu Gly Ser Asn Val Thr Leu Gln Val Phe Val Leu Asp Glu	
215 220 225	

aac gac aac gcg ccg gca ctg ctg gcg act ccg gct ggc agc gca gga	774
Asn Asp Asn Ala Pro Ala Leu Leu Ala Thr Pro Ala Gly Ser Ala Gly	
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Gly Ala Val Ser Glu Leu Val Pro Arg Ser Val Gly Ala Gly His Val	
250 255 260	
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Val Ala Lys Val Arg Ala Val Asp Ala Asp Ser Gly Tyr Asn Ala Trp	
265 270 275	
ctg tcc tac gag ttg caa ccg gcg gcg gtc ggc gcg cac atc ccg ttc	918
Leu Ser Tyr Glu Leu Gln Pro Ala Ala Val Gly Ala His Ile Pro Phe	
280 285 290	
cac gtg ggg ctg tac act ggc gag atc agc acg aca cgc atc ctg gat	966
His Val Gly Leu Tyr Thr Gly Glu Ile Ser Thr Thr Arg Ile Leu Asp	
295 300 305	
gag gcg gac gct ccg cgc cac cgc ctg ctg gtg ctg gtg aag gac cac	1014
Glu Ala Asp Ala Pro Arg His Arg Leu Leu Val Leu Val Lys Asp His	
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Gly Glu Pro Ala Leu Thr Ser Thr Ala Thr Val Leu Val Ser Leu Val	
330 335 340	
gag aac ggc cag gcc cca aag acg tcg tcg cgg gcc tca gtg ggc gct	1110

Glu Asn Gly Gln Ala Pro Lys Thr Ser Ser Arg Ala Ser Val Gly Ala
345 350 355

gtg gat ccc gaa gcg gct ctg gtg gat att aac gtg tac ctc atc atc 1158
Val Asp Pro Glu Ala Ala Leu Val Asp Ile Asn Val Tyr Leu Ile Ile
360 365 370

gcc atc tgt gcg gtg tcc agc ctg ctg gtg ctc acg ctg ctg ttg tac 1206
Ala Ile Cys Ala Val Ser Ser Leu Leu Val Leu Thr Leu Leu Leu Tyr
375 380 385

act gcg ctg cgt tgc tca gcg ccg ccc acc gtg agc cgg tgc gcg ccg 1254
Thr Ala Leu Arg Cys Ser Ala Pro Pro Thr Val Ser Arg Cys Ala Pro
390 395 400 405

ggc aag ccc acg ctg gtg tgc tcc agc gcc gtg ggg agt tgg tct tac 1302
Gly Lys Pro Thr Leu Val Cys Ser Ser Ala Val Gly Ser Trp Ser Tyr
410 415 420

tcg cag cag agg agg cag agg gtg tgc tct gca gag agc ccg ccc aag 1350
Ser Gln Gln Arg Arg Gln Arg Val Cys Ser Ala Glu Ser Pro Pro Lys
425 430 435

acg gac ctc atg gcc ttc agc cca agc ctt cag ctg tct cga gaa gat 1398
Thr Asp Leu Met Ala Phe Ser Pro Ser Leu Gln Leu Ser Arg Glu Asp
440 445 450

tgt tta aat cct ccc agt gaa cca cga cag ccc aac cct gac tgg cgt 1446
Cys Leu Asn Pro Pro Ser Glu Pro Arg Gln Pro Asn Pro Asp Trp Arg

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tac tct gcc tcc ctg aga gca ggc atg cac agc tct gtg cac cta gag 1494

Tyr Ser Ala Ser Leu Arg Ala Gly Met His Ser Ser Val His Leu Glu

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gag gct ggc att cta cgg gct ggt cca gga ggg cct gat cag cag tgg 1542

Glu Ala Gly Ile Leu Arg Ala Gly Pro Gly Gly Pro Asp Gln Gln Trp

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cca aca gta tcc agt gca aca cca gaa cca gag gca gga gaa gtg tcc 1590

Pro Thr Val Ser Ser Ala Thr Pro Glu Pro Glu Ala Gly Glu Val Ser

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cct cca gtc ggt gcg ggt gtc aac agc aac agc tgg acc ttt aaa tac 1638

Pro Pro Val Gly Ala Gly Val Asn Ser Asn Ser Trp Thr Phe Lys Tyr

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525

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gga cca ggc aac ccc aaa caa tcc ggt ccc ggt gag ttg ccc gac aaa 1686

Gly Pro Gly Asn Pro Lys Gln Ser Gly Pro Gly Glu Leu Pro Asp Lys

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ttc att atc cca gga tct cct gca atc atc tcc atc cgg cag gag cct 1734

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act aac agc caa att gac aaa agt gac ttc ata acc ttc ggc aaa aag 1782

Thr Asn Ser Gln Ile Asp Lys Ser Asp Phe Ile Thr Phe Gly Lys Lys

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gag gag acc aag aaa aag aag aaa aag aag aag ggt aac aag acc cag 1830

Glu Glu Thr Lys Lys Lys Lys Lys Lys Lys Lys Gly Asn Lys Thr Gln

585

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gag aaa aaa gag aaa ggg aac agc acg act gac aac agt gac cag 1875

Glu Lys Lys Glu Lys Gly Asn Ser Thr Thr Asp Asn Ser Asp Gln

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35 40 45

Asp Ser Gly Ala Asn Gly Gln Val Ile Cys Ser Leu Thr Pro His Val

50 55 60

Pro Phe Lys Leu Val Ser Thr Tyr Lys Asn Tyr Tyr Ser Leu Val Leu

65 70 75 80

Asp Ser Ala Leu Asp Arg Glu Ser Val Ser Ala Tyr Glu Leu Val Val

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Thr Ala Arg Asp Gly Gly Ser Pro Ser Leu Trp Ala Thr Ala Arg Val

100

105

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Ser Val Glu Val Ala Asp Val Asn Asp Asn Ala Pro Ala Phe Ala Gln

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Pro Glu Tyr Thr Val Phe Val Lys Glu Asn Asn Pro Pro Gly Cys His

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Ile Phe Thr Val Ser Ala Trp Asp Ala Asp Ala Gln Lys Asn Ala Leu

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160

Val Ser Tyr Ser Leu Val Glu Arg Arg Val Gly Glu His Ala Leu Ser

165

170

175

Ser Tyr Val Ser Val His Ala Glu Ser Gly Lys Val Tyr Ala Leu Gln

180

185

190

Pro Leu Asp His Glu Glu Leu Glu Leu Leu Gln Phe Gln Val Ser Ala

195

200

205

Arg Asp Ala Gly Val Pro Pro Leu Gly Ser Asn Val Thr Leu Gln Val

210

215

220

Phe Val Leu Asp Glu Asn Asp Asn Ala Pro Ala Leu Leu Ala Thr Pro

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Ala Gly Ser Ala Gly Gly Ala Val Ser Glu Leu Val Pro Arg Ser Val
245 250 255

Gly Ala Gly His Val Val Ala Lys Val Arg Ala Val Asp Ala Asp Ser
260 265 270

Gly Tyr Asn Ala Trp Leu Ser Tyr Glu Leu Gln Pro Ala Ala Val Gly
275 280 285

Ala His Ile Pro Phe His Val Gly Leu Tyr Thr Gly Glu Ile Ser Thr
290 295 300

Thr Arg Ile Leu Asp Glu Ala Asp Ala Pro Arg His Arg Leu Leu Val
305 310 315 320

Leu Val Lys Asp His Gly Glu Pro Ala Leu Thr Ser Thr Ala Thr Val
325 330 335

Leu Val Ser Leu Val Glu Asn Gly Gln Ala Pro Lys Thr Ser Ser Arg
340 345 350

Ala Ser Val Gly Ala Val Asp Pro Glu Ala Ala Leu Val Asp Ile Asn
355 360 365

Val Tyr Leu Ile Ile Ala Ile Cys Ala Val Ser Ser Leu Leu Val Leu
370 375 380

Thr Leu Leu Leu Tyr Thr Ala Leu Arg Cys Ser Ala Pro Pro Thr Val

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Ser Arg Cys Ala Pro Gly Lys Pro Thr Leu Val Cys Ser Ser Ala Val

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Gly Ser Trp Ser Tyr Ser Gln Gln Arg Arg Gln Arg Val Cys Ser Ala

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425

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Glu Ser Pro Pro Lys Thr Asp Leu Met Ala Phe Ser Pro Ser Leu Gln

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Leu Ser Arg Glu Asp Cys Leu Asn Pro Pro Ser Glu Pro Arg Gln Pro

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455

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Asn Pro Asp Trp Arg Tyr Ser Ala Ser Leu Arg Ala Gly Met His Ser

465

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475

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Ser Val His Leu Glu Glu Ala Gly Ile Leu Arg Ala Gly Pro Gly Gly

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490

495

Pro Asp Gln Gln Trp Pro Thr Val Ser Ser Ala Thr Pro Glu Pro Glu

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Ala Gly Glu Val Ser Pro Pro Val Gly Ala Gly Val Asn Ser Asn Ser

515

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525

Trp Thr Phe Lys Tyr Gly Pro Gly Asn Pro Lys Gln Ser Gly Pro Gly

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Glu Leu Pro Asp Lys Phe Ile Ile Pro Gly Ser Pro Ala Ile Ile Ser
545 550 555 560

Ile Arg Gln Glu Pro Thr Asn Ser Gln Ile Asp Lys Ser Asp Phe Ile
565 570 575

Thr Phe Gly Lys Lys Glu Glu Thr Lys Lys Lys Lys Lys Lys Lys Lys
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Met Gly Leu Ala Leu His Cys Ile Ala Ser Val Gly

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Ser Arg Glu Met Ala Glu Ala Phe Ala Gly Glu Ile Pro Lys Val Leu

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gta gcc gga gac act atg gac agc gtg aag cag agc gcg gcc ctg tgc 205

Val Ala Gly Asp Thr Met Asp Ser Val Lys Gln Ser Ala Ala Leu Cys

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ttg ctg cgc ctg tac agg acg tcc ccc gat ctt gtc ccc atg ggc gac 253

Leu Leu Arg Leu Tyr Arg Thr Ser Pro Asp Leu Val Pro Met Gly Asp

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tgg aca tcc cga gtg gtg cac ctg ctc aat gac cag cac ttg ggt gtg 301

Trp Thr Ser Arg Val Val His Leu Leu Asn Asp Gln His Leu Gly Val

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70

75

gta act gca gcc aca agt ctg atc acc act tta gca cag aag aac cca 349

Val Thr Ala Ala Thr Ser Leu Ile Thr Thr Leu Ala Gln Lys Asn Pro

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gaa gag ttt aaa acc tcc gtg tct ctg gct gtc tct agg cta agc aga 397

Glu Glu Phe Lys Thr Ser Val Ser Leu Ala Val Ser Arg Leu Ser Arg

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100

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atc gtg acg tct gca tcc aca gat ctc cag gat tac act tac tat ttt 445

Ile Val Thr Ser Ala Ser Thr Asp Leu Gln Asp Tyr Thr Tyr Tyr Phe

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gtc ccg gct ccc tgg ctg tct gtc aaa ctg ctg aga ctg ctg cag tgc 493

Val Pro Ala Pro Trp Leu Ser Val Lys Leu Leu Arg Leu Leu Gln Cys

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tac cca ccc cca gac cct gca gtg cga ggc cgc ctg act gag tgc ctg 541

Tyr Pro Pro Pro Asp Pro Ala Val Arg Gly Arg Leu Thr Glu Cys Leu

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gag acc atc ctg aac aaa gcc caa gaa ccg ccc aag tcg aag aag gtc 589

Glu Thr Ile Leu Asn Lys Ala Gln Glu Pro Pro Lys Ser Lys Lys Val

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cag tac tcc aac gcg aag aat gcc gtg ctt ttc gag gcc atc agc tta 637

Gln Tyr Ser Asn Ala Lys Asn Ala Val Leu Phe Glu Ala Ile Ser Leu

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atc att cac cat gac agt gag ccg aac ctg ctc gtc cgt gcc tgc aac 685

Ile Ile His His Asp Ser Glu Pro Asn Leu Leu Val Arg Ala Cys Asn

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cag ttg ggc cag ttt ctg cag cac cgc gag acc aac ctg cgc tac ctg 733

Gln Leu Gly Gln Phe Leu Gln His Arg Glu Thr Asn Leu Arg Tyr Leu

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215

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gcc ctg gag agc atg tgc acg ctg gcc agc tct gag ttc tcc cat gag 781

Ala Leu Glu Ser Met Cys Thr Leu Ala Ser Ser Glu Phe Ser His Glu

225

230

235

gct gtc aag acg cac atc gag acg gtc atc aac gcc ctg aag act gag 829

Ala Val Lys Thr His Ile Glu Thr Val Ile Asn Ala Leu Lys Thr Glu

240

245

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cgg gac gtg agc gtg ctg ccg ccc acc ccg cct cgg agc ctc tgg gag 877

Arg Asp Val Ser Val Leu Pro Pro Thr Pro Pro Arg Ser Leu Trp Glu

255

260

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cag cag tgc cac tgt gca tgg cgt ggg ctg agc ctt ggt gtg tgg ccg 925

Gln Gln Cys His Cys Ala Trp Arg Gly Leu Ser Leu Gly Val Trp Pro

270

275

280

tcc tgg tgg ctg cac acc tgg cgt cgt cct ggg ccc ttg gga gga gca 973

Ser Trp Trp Leu His Thr Trp Arg Arg Pro Gly Pro Leu Gly Gly Ala

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Gln Leu Thr Leu Val Leu Leu Gln Ser Gln Leu Asp Cys Phe Pro Arg

305

310

315

cag gat ttt aat cta gaa ttt aga aac att tgt att tgt aat gac ttc 1069

Gln Asp Phe Asn Leu Glu Phe Arg Asn Ile Cys Ile Cys Asn Asp Phe

320

325

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tgg caa aag cac gtg tcc tgg ccg gat gta act gtt ctc ctt tcc cag 1117

Trp Gln Lys His Val Ser Trp Pro Asp Val Thr Val Leu Leu Ser Gln

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 Pro Gly Leu Gln Gly Lys Val Trp Ala Gly Gly Ala Arg Leu Arg Gly
 385 390 395

gtg ctc gtc tct ttc ctg tca gag tgg gcg tcc cca ggc cac ggt gca 1309
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 Gly Leu Ser Pro Ser Thr Gly Pro Val Gln Ser Ser Leu Glu Gly Leu
 415 420 425

tgg agg aag gac gcc tct gtg tgg tca gga agt gaa ggg gcc att ggc 1405
 Trp Arg Lys Asp Ala Ser Val Trp Ser Gly Ser Glu Gly Ala Ile Gly
 430 435 440

cgc atg cca tgt gcc acc tgc ggc ttg tgt ctc acc tgt cat ctg gac 1453
 Arg Met Pro Cys Ala Thr Cys Gly Leu Cys Leu Thr Cys His Leu Asp
 445 450 455 460

tca gca ccc agg ctg cac gtc tgacacctga gaggcgagag agtggggccg 1504

Ser Ala Pro Arg Leu His Val

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35 40 45

Tyr Arg Thr Ser Pro Asp Leu Val Pro Met Gly Asp Trp Thr Ser Arg
50 55 60

Val Val His Leu Leu Asn Asp Gln His Leu Gly Val Val Thr Ala Ala
65 70 75 80

Thr Ser Leu Ile Thr Thr Leu Ala Gln Lys Asn Pro Glu Glu Phe Lys
85 90 95

Thr Ser Val Ser Leu Ala Val Ser Arg Leu Ser Arg Ile Val Thr Ser
100 105 110

Ala Ser Thr Asp Leu Gln Asp Tyr Thr Tyr Tyr Phe Val Pro Ala Pro
115 120 125

Trp Leu Ser Val Lys Leu Leu Arg Leu Leu Gln Cys Tyr Pro Pro Pro
130 135 140

Asp Pro Ala Val Arg Gly Arg Leu Thr Glu Cys Leu Glu Thr Ile Leu
145 150 155 160

Asn Lys Ala Gln Glu Pro Pro Lys Ser Lys Lys Val Gln Tyr Ser Asn
165 170 175

Ala Lys Asn Ala Val Leu Phe Glu Ala Ile Ser Leu Ile Ile His His

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185

190

Asp Ser Glu Pro Asn Leu Leu Val Arg Ala Cys Asn Gln Leu Gly Gln

195

200

205

Phe Leu Gln His Arg Glu Thr Asn Leu Arg Tyr Leu Ala Leu Glu Ser

210

215

220

Met Cys Thr Leu Ala Ser Ser Glu Phe Ser His Glu Ala Val Lys Thr

225

230

235

240

His Ile Glu Thr Val Ile Asn Ala Leu Lys Thr Glu Arg Asp Val Ser

245

250

255

Val Leu Pro Pro Thr Pro Pro Arg Ser Leu Trp Glu Gln Gln Cys His

260

265

270

Cys Ala Trp Arg Gly Leu Ser Leu Gly Val Trp Pro Ser Trp Trp Leu

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His Thr Trp Arg Arg Pro Gly Pro Leu Gly Gly Ala Gln Leu Thr Leu

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Val Leu Leu Gln Ser Gln Leu Asp Cys Phe Pro Arg Gln Asp Phe Asn

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Leu Glu Phe Arg Asn Ile Cys Ile Cys Asn Asp Phe Trp Gln Lys His

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Val Ser Trp Pro Asp Val Thr Val Leu Leu Ser Gln Leu Leu Phe Val

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Lys Gly Val Cys Tyr Ala Pro Ala Val Ala Glu Ala Leu Asp Val Gln

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Pro Gly Glu Glu Arg Pro Ala Gly Pro Ala Gly Pro Pro Gly Leu Gln

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Gly Lys Val Trp Ala Gly Gly Ala Arg Leu Arg Gly Val Leu Val Ser

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390

395

400

Phe Leu Ser Glu Trp Ala Ser Pro Gly His Gly Ala Gly Leu Ser Pro

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410

415

Ser Thr Gly Pro Val Gln Ser Ser Leu Glu Gly Leu Trp Arg Lys Asp

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425

430

Ala Ser Val Trp Ser Gly Ser Glu Gly Ala Ile Gly Arg Met Pro Cys

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Ala Thr Cys Gly Leu Cys Leu Thr Cys His Leu Asp Ser Ala Pro Arg

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455

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Leu His Val

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cccaatgacc taticcttga ggcccctgcg tcgggatcct ctgacctct agactttcag 180

catcacaatt acaaggcc atg agg aag ctg atg aag cag gta caa gag caa 231

Met Arg Lys Leu Met Lys Gln Val Gln Glu Gln

1

5

10

tgc ccc aac atc acc cgc atc tac agc att ggg aag agc tac cag ggc 279

Cys Pro Asn Ile Thr Arg Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly

15

20

25

ctg aag ctg tat gtg atg gaa atg tcg gac aag cct ggg gag cat gag 327

Leu Lys Leu Tyr Val Met Glu Met Ser Asp Lys Pro Gly Glu His Glu

30

35

40

ctg ggg gag cct gag gtg cgc tac gtg gct ggc atg cat ggg aac gag - 375
Leu Gly Glu Pro Glu Val Arg Tyr Val Ala Gly Met His Gly Asn Glu

45

50

55

gcc ctg ggg cgg gag ttg ctt ctg ctc ctg atg cag ttc ctg tgc cat 423
Ala Leu Gly Arg Glu Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His

60

65

70

75

gag ttc ctg cga ggg aac cca cgg gtg acc cgg ctg ctc tct gag atg 471
Glu Phe Leu Arg Gly Asn Pro Arg Val Thr Arg Leu Leu Ser Glu Met

80

85

90

cgc att cac ctg ctg ccc tcc atg aac cct gat ggc tat gag atc gcc 519
Arg Ile His Leu Leu Pro Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala

95

100

105

tac cac cgg ggt tca gag ctg gtg ggc tgg gcc gag ggc cgc tgg aac 567
Tyr His Arg Gly Ser Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Asn

110

115

120

aac cag agc atc gat ctt aac cat aat ttt gct gac ctc aac aca cca 615
Asn Gln Ser Ile Asp Leu Asn His Asn Phe Ala Asp Leu Asn Thr Pro

125

130

135

ctg tgg gaa gca cag gac gat ggg aag gtg ccc cac atc gtc ccc aac 663
Leu Trp Glu Ala Gln Asp Asp Gly Lys Val Pro His Ile Val Pro Asn

140

145

150

155

cat cac ctg cca ttg ccc act tac tac acc ctg ccc aat gcc acc gtg 711

His His Leu Pro Leu Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val

160

165

170

gct cct gaa acg cgg gca gta atc aag tgg atg aag cgg atc ccc ttt 759

Ala Pro Glu Thr Arg Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe

175

180

185

gtg cta agt gcc aac ctc cac ggg ggt gag ctc gtg gtg tcc tac cca 807

Val Leu Ser Ala Asn Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro

190

195

200

ttc gac atg act cgc acc ccg tgg gct gcc cgc gag ctc acg ccc aca 855

Phe Asp Met Thr Arg Thr Pro Trp Ala Ala Arg Glu Leu Thr Pro Thr

205

210

215

cca gat gat gct gtg ttt cgc tgg ctc agc act gtc tat gct ggc agt 903

Pro Asp Asp Ala Val Phe Arg Trp Leu Ser Thr Val Tyr Ala Gly Ser

220

225

230

235

aat ctg gcc atg cag gac acc agc cgc cga ccc tgc cac agc cag gac 951

Asn Leu Ala Met Gln Asp Thr Ser Arg Arg Pro Cys His Ser Gln Asp

240

245

250

ttc tcc gtg cac ggc aac atc atc aac ggg gct gac tgg cac acg gtc 999

Phe Ser Val His Gly Asn Ile Ile Asn Gly Ala Asp Trp His Thr Val

255

260

265

ccc ggg agc atg aat gac ttc agc tac cta cac acc aac tgc ttt gag 1047

Pro Gly Ser Met Asn Asp Phe Ser Tyr Leu His Thr Asn Cys Phe Glu

270	275	280	
gtc act gtg gag ctg tcc tgt gac aag ttc cct cac gag aat gaa ttg 1095			
Val Thr Val Glu Leu Ser Cys Asp Lys Phe Pro His Glu Asn Glu Leu			
285	290	295	
ccc cag gag tgg gag aac aac aaa gac gcc ctc ctc acc tac ctg gag 1143			
Pro Gln Glu Trp Glu Asn Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu			
300	305	310	315
cag gtg cgc atg ggc att gca gga gtg gtg agg gac aag gac acg gag 1191			
Gln Val Arg Met Gly Ile Ala Gly Val Val Arg Asp Lys Asp Thr Glu			
320	325	330	
ctt ggg att gct gac gct gtc att gcc gtg gat ggg att aac cat gac 1239			
Leu Gly Ile Ala Asp Ala Val Ile Ala Val Asp Gly Ile Asn His Asp			
335	340	345	
gtg acc acg gcg tgg ggc ggg gat tat tgg cgt ctg ctg acc cca ggg 1287			
Val Thr Thr Ala Trp Gly Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly			
350	355	360	
gac tac atg gtg act gcc agt gcc gag ggc tac cat tca gtg aca cgg 1335			
Asp Tyr Met Val Thr Ala Ser Ala Glu Gly Tyr His Ser Val Thr Arg			
365	370	375	
aac tgt cgg gtc acc ttt gaa gag ggc ccc ttc ccc tgc aat ttc gtg 1383			
Asn Cys Arg Val Thr Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe Val			
380	385	390	395

ctc acc aag act ccc aaa cag agg ctg cgc gag ctg ctg gca gct ggg 1431

Leu Thr Lys Thr Pro Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly

400

405

410

gcc aag gtg ccc ccg gac ctt cgc agg cgc ctg gag cgg cta agg gga 1479

Ala Lys Val Pro Pro Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly

415

420

425

cag aag gat tgatacctgc ggtttaagag ccctagggca ggctggacct 1528

Gln Lys Asp

430

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aaagctaccg ggcacctt

1606

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<212> PRT

<213> Homo sapiens

<400> 336

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1

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10

15

Arg Ile Tyr Ser Ile Gly Lys Ser Tyr Gln Gly Leu Lys Leu Tyr Val

20

25

30

Met Glu Met Ser Asp Lys Pro Gly Glu His Glu Leu Gly Glu Pro Glu			
35	40	45	
Val Arg Tyr Val Ala Gly Met His Gly Asn Glu Ala Leu Gly Arg Glu			
50	55	60	
Leu Leu Leu Leu Leu Met Gln Phe Leu Cys His Glu Phe Leu Arg Gly			
65	70	75	80
Asn Pro Arg Val Thr Arg Leu Leu Ser Glu Met Arg Ile His Leu Leu			
	85	90	95
Pro Ser Met Asn Pro Asp Gly Tyr Glu Ile Ala Tyr His Arg Gly Ser			
100	105	110	
Glu Leu Val Gly Trp Ala Glu Gly Arg Trp Asn Asn Gln Ser Ile Asp			
115	120	125	
Leu Asn His Asn Phe Ala Asp Leu Asn Thr Pro Leu Trp Glu Ala Gln			
130	135	140	
Asp Asp Gly Lys Val Pro His Ile Val Pro Asn His His Leu Pro Leu			
145	150	155	160
Pro Thr Tyr Tyr Thr Leu Pro Asn Ala Thr Val Ala Pro Glu Thr Arg			
	165	170	175
Ala Val Ile Lys Trp Met Lys Arg Ile Pro Phe Val Leu Ser Ala Asn			

180

185

190

Leu His Gly Gly Glu Leu Val Val Ser Tyr Pro Phe Asp Met Thr Arg

195

200

205

Thr Pro Trp Ala Ala Arg Glu Leu Thr Pro Thr Pro Asp Asp Ala Val

210

215

220

Phe Arg Trp Leu Ser Thr Val Tyr Ala Gly Ser Asn Leu Ala Met Gln

225

230

235

240

Asp Thr Ser Arg Arg Pro Cys His Ser Gln Asp Phe Ser Val His Gly

245

250

255

Asn Ile Ile Asn Gly Ala Asp Trp His Thr Val Pro Gly Ser Met Asn

260

265

270

Asp Phe Ser Tyr Leu His Thr Asn Cys Phe Glu Val Thr Val Glu Leu

275

280

285

Ser Cys Asp Lys Phe Pro His Glu Asn Glu Leu Pro Gln Glu Trp Glu

290

295

300

Asn Asn Lys Asp Ala Leu Leu Thr Tyr Leu Glu Gln Val Arg Met Gly

305

310

315

320

Ile Ala Gly Val Val Arg Asp Lys Asp Thr Glu Leu Gly Ile Ala Asp

325

330

335

Ala Val Ile Ala Val Asp Gly Ile Asn His Asp Val Thr Thr Ala Trp
340 345 350

Gly Gly Asp Tyr Trp Arg Leu Leu Thr Pro Gly Asp Tyr Met Val Thr
355 360 365

Ala Ser Ala Glu Gly Tyr His Ser Val Thr Arg Asn Cys Arg Val Thr
370 375 380

Phe Glu Glu Gly Pro Phe Pro Cys Asn Phe Val Leu Thr Lys Thr Pro
385 390 395 400

Lys Gln Arg Leu Arg Glu Leu Leu Ala Ala Gly Ala Lys Val Pro Pro
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Asp Leu Arg Arg Arg Leu Glu Arg Leu Arg Gly Gln Lys Asp
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<213> Artificial Sequence

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<223> Description of Artificial Sequence:an artificially
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<213> Artificial Sequence

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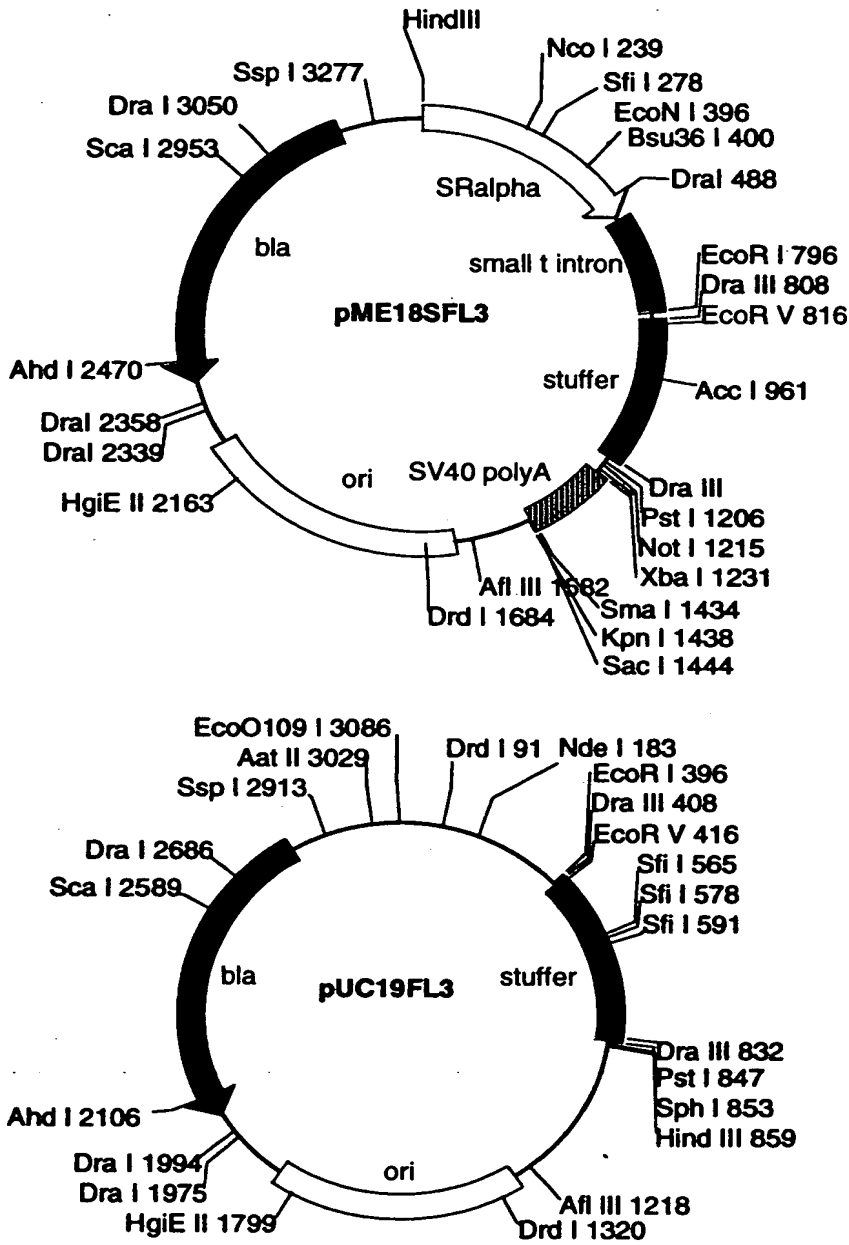
21

【図面の簡単な説明】

【図 1】 pME18SFL3とpUC19FL3のベクターのマップ

【書類名】 図面

【図 1】



【書類名】 要約書

【要約】

【課題】 新規なヒト分泌タンパク質、または膜タンパク質と、それをコードする全長cDNAの提供。

【解決手段】 168種のヒト分泌タンパク質、または膜タンパク質とそれをコードする全長cDNAを単離した。本発明のタンパク質は、自身が医薬品の候補化合物として有用である。あるいは、医薬品開発の標的分子として有用である。また本発明による全長cDNAは、これらのタンパク質の生産のために利用される。

【選択図】 なし



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